4464

ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETY OF PARIS;

PRESIDENT OF THE LINNEAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

——"VIRESQUE ACQUIRIT EUNDO."——*Virg.*

VOL. XXIII.

LONDON:

PRINTED BY R. TAYLOR AND CO., 38, SHOE-LANE, FLEET-STREET;

And sold by the Proprietor, J. SOWERBY, at No. 2, Mead Place, Lambeth; by Messrs. WHITE, Fleet-street; JOHNSON, St. Paul's Church-yard; SYMONDS, Pater-noster-row; and by all Booksellers, &c. in Town and Country.

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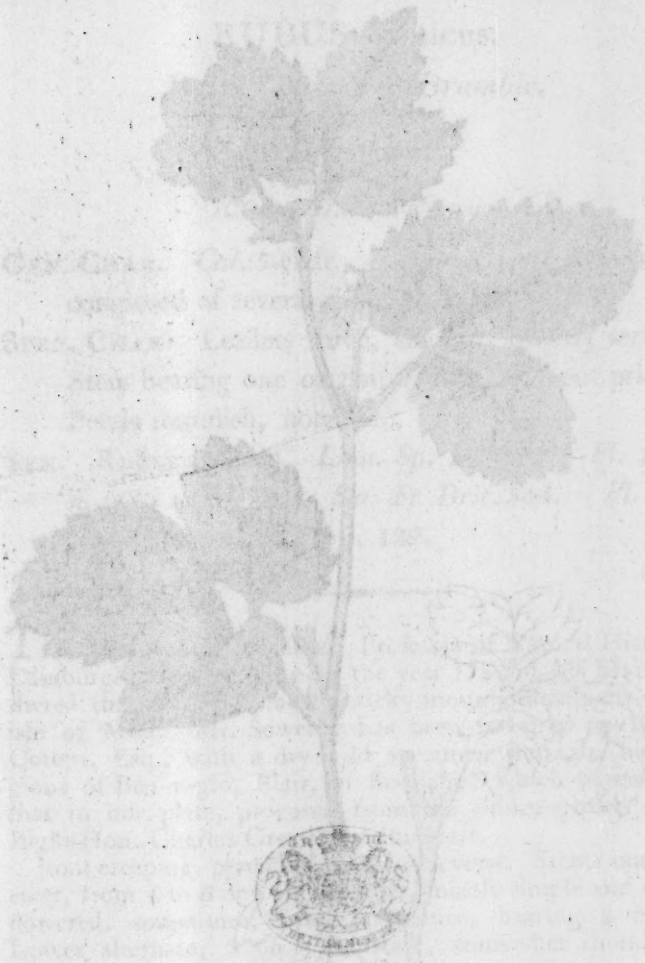
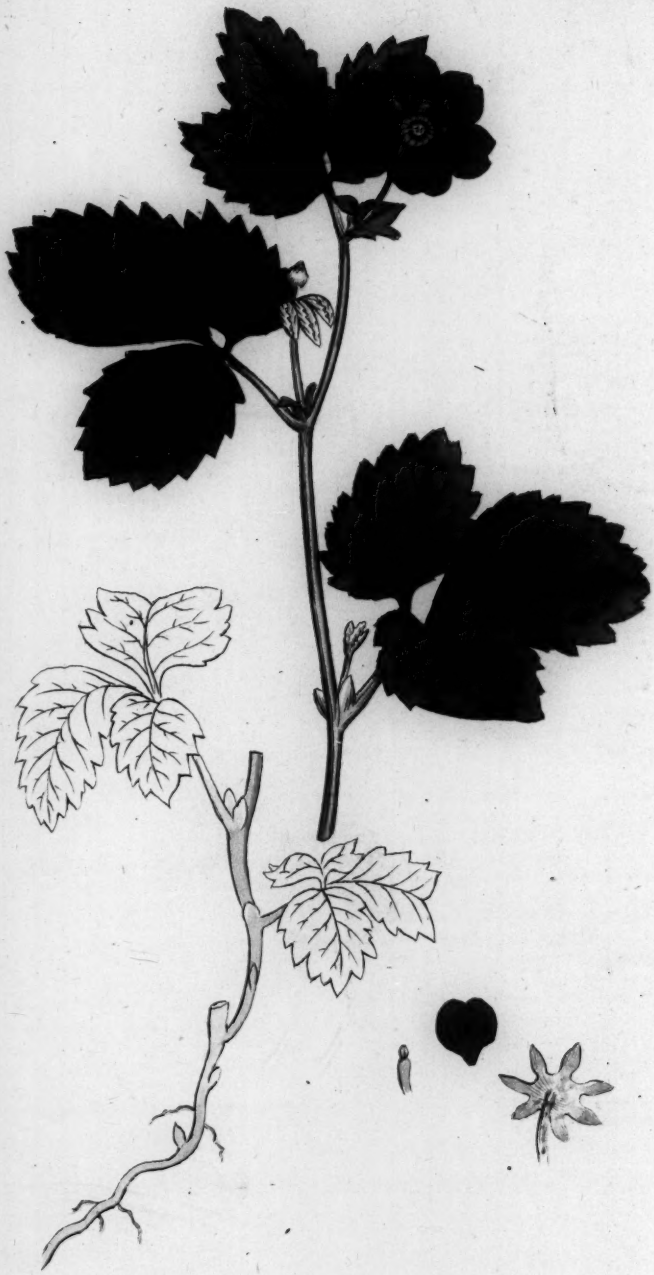




April 1 1830. Published by Jas. Sowerby, London.

RUBUS arcticus.

Dwarf Crimson Bramble.

ICOSANDRIA Polygynia.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Berry* superior, composed of several single-seeded grains.

SPEC. CHAR. Leaflets three, smooth, bluntly serrated. Stem bearing one or two flowers, without prickles. Petals roundish, notched.

SYN. Rubus arcticus. *Linn. Sp. Pl.* 708. *Fl. Lapp. n.* 207. *t.* 5. *f.* 2. *Sm. Fl. Brit.* 544. *Fl. Dan. t.* 488. *Curt. Mag. t.* 132.

THE late Rev. Dr. Walker, Professor of Natural History at Edinburgh, informed me in the year 1782 of his having gathered this beautiful plant in rocky mountainous parts of the isle of Mull. Mr. Sowerby has been favoured by Richard Cotton, Esq., with a dry wild specimen from the high regions of Ben-y-glo, Blair, in Scotland, which agrees with that in our plate, procured from the choice garden of the Right Hon. Charles Greville in June last.

Root creeping, perennial, without scyons. Stems unarmed, erect, from 4 to 6 or 8 inches high, mostly simple and single-flowered, sometimes, from luxuriance, bearing 2 flowers. Leaves alternate, 3 on a footstalk, somewhat rhomboidal, bluntly and irregularly serrated, almost perfectly smooth. Stipulas roundish, undivided. Flower crimson, on a terminal downy stalk. Calyx in 5, 6 or 7 downy segments. Petals as many, roundish, generally with a terminal notch. Fruit of a pale purplish amber hue, formed of a few large grains, sweet and highly flavoured, partaking of the Raspberry and Strawberry as it were combined. We have tasted it at the late Mr. Sykes's at Hackney. Of this fruit a rich wine is made in Sweden, reserved for the tables of the great. Linnæus, very partial to this plant, has, among his many fine specimens of it, preserved some from Lapland whose petals are much jagged.

April 1. 1806. Published by Jas. Sowerby, London.

ELYMUS geniculatus.

Pendulous Sea Lyme-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* lateral, aggregate, of 2 valves, containing (mostly) several flowers.

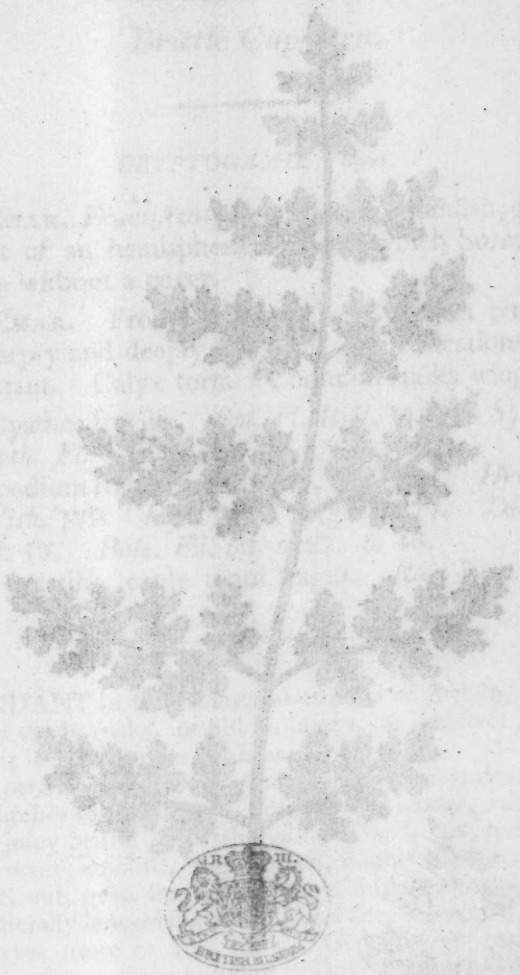
SPEC. CHAR. Spike bent perpendicularly downward, loose. Calyx bristle-shaped, spreading, longer than the spikelets. Leaves with a spinous point.

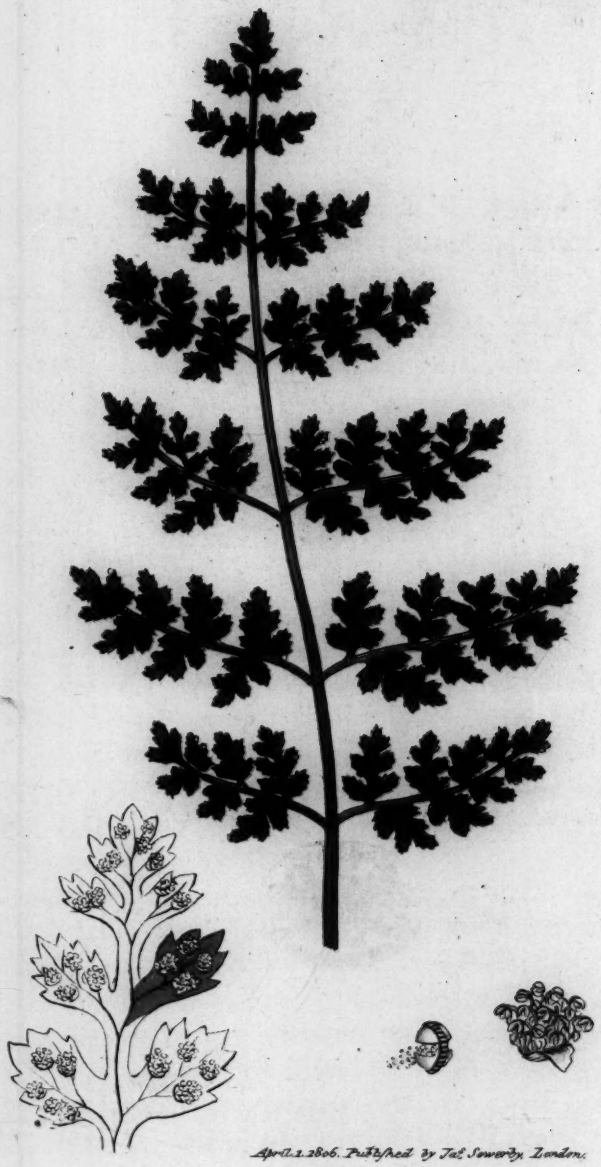
SYN. Elymus geniculatus. *Curt. Brit. Grasses*, 46. *Sm. Fl. Brit.* 153. *Knapp*, *t.* 109.

Elymus. *Linn. Am. Acad. v.* 7. 192. *t.* 2. *f.* 5. *With. v.* 1. 134. *t.* 2. *f.* 26.

DISCOVERED in marshes near Gravesend by Mr. Dickson. Mr. Curtis first made it known to the botanical world as distinct from *E. arenarius*, for even Linnæus seems to have confounded them. Our specimen grew in the Liverpool garden. July is the season of its flowering.

Root perennial, downy. Herb glaucous. Leaves hard and rigid, long, narrow, involute, furrowed above, smooth beneath, ending in a sharp spine. Stipula very short. Stem round, very smooth, 3 or 4 feet high, ending in a simple lax spike, a foot and half or 2 feet in length, remarkable for being, in the course of its flowering, bent down at an acute angle, about the second or third spikelet, and so becoming perfectly pendulous, nor can it be unbent without breaking. Calyx-glumes very narrow and tapering, smooth, commonly about half as long again as the spikelets they enfold, each of which consists of 3 or 4 alternate downy florets, standing on a stalk which is sometimes elongated and naked.





April 1. 1806. Published by Jas. Sowerby, London.

CYATHEA fragilis.

Brittle Cup-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, roundish, growing out of an hemispherical calyx, which bursts at the top without a cover.

SPEC. CHAR. Frond bipinnate: its leaflets pinnatifid, sharply and deeply serrated. Fructifications a little distant. Calyx torn. Common stalks winged.

SYN. Cyathea fragilis. *Sm. Fl. Brit.* 1139. *Sym.* 194. *Roth. Fl. Germ. v.* 3. 94.

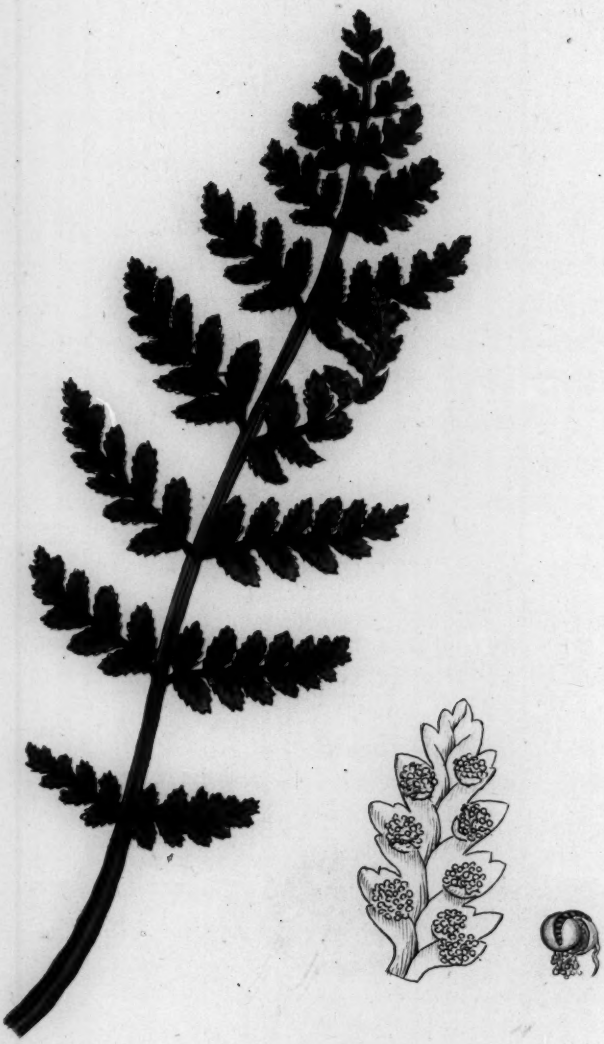
Polypodium fragile. *Linn. Sp. Pl.* 1553. *Huds.* 459. *With.* 779. *Hull.* 240. *Lightf.* 677. *Dicks. Dr. Pl.* 15. *Bolt. Fil.* 50. *t.* 27, & 46.

Filix saxatilis, caule tenui fragili. *Raii Syn.* 125.

ABUNDANT in the mountainous parts of Britain, growing on moist shady rocks, or old buildings, to which it is a great ornament in the summer months.

Root perennial, tufted, crowned with brown scales. Fronds from 4 inches to a foot high, delicate and tender, each with a smooth juicy brittle blackish stalk. The frond itself is lanceolate, acute, smooth, bright green, doubly pinnate. Leaflets alternate, cut, most frequently pinnatifid, sometimes obovate, more generally lanceolate, sharply and deeply serrated, pointed, their nerves more or less wavy. General and partial stalk bordered with a narrow wing. Dots of fructification numerous, alternate, round, brown or black, not confluent except when old. Involucrum or calyx cup-shaped, embracing the capsules underneath, bursting laterally, jagged, at length reflexed and obliterated.

No fern varies more in the number, form and breadth of its subdivisions. When large, most compound, and finely cut, it is the *Polypodium rheticum* of British writers. When smaller and less compound, it is, according to the Rev. H. Davies, the *P. ilvense* of Ray's *Synopsis*, 117.



April 1. 1806. Published by Jas Sowerby, London.

CYATHEA dentata.

Toothed Cup-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, roundish, growing out of an hemispherical calyx, which bursts at the top without a cover.

SPEC. CHAR. Frond bipinnate: its leaflets ovate, obtuse, deeply and bluntly toothed, pointless.

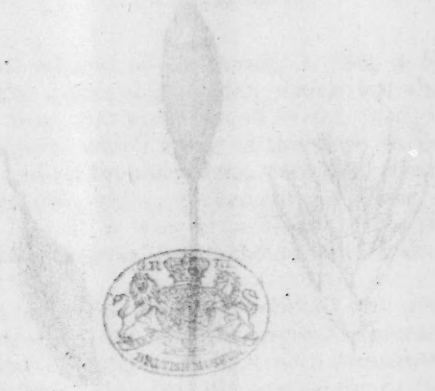
SYN. Cyathea dentata. *Sm. Fl. Brit.* 1141.

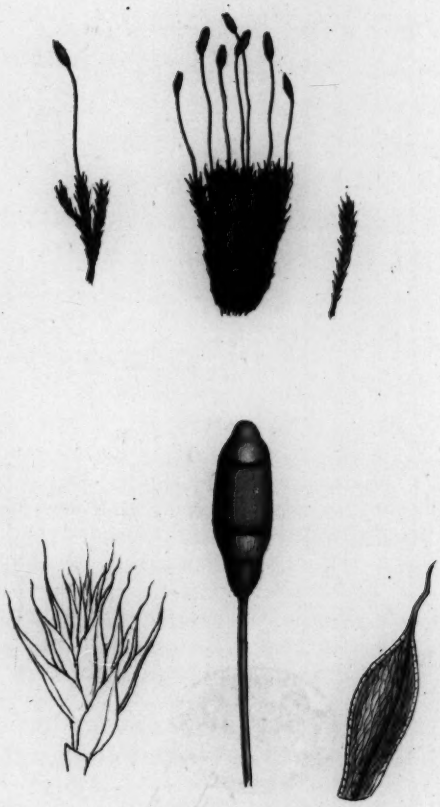
Polypodium dentatum. *Dicks. Crypt. fasc.* 3. 1. *t.* 7. *f.* 1. *H. Sicc. fasc.* 5. 16. *With.* 776. *Hull.* 238.

FOUND only in the clefts of alpine rocks on the highest mountains of Scotland and Wales. Our specimen was communicated by the Rev. H. Davies from the last mentioned country. It grows at the foot of the walls of Castle *Dinas Bran*, Flintshire. Mr. Griffith has sent us fine specimens from Snowdon. In July it is in perfection.

This is generally smaller than the *C. fragilis*, and the frond less compound, being sometimes scarcely bipinnate. The specimen in our plate exhibits its most perfect form, which is bipinnate; the leaflets ovate, obtuse, very deeply but bluntly toothed, the teeth and termination quite destitute of any point or bristle. The main nerve of each leaflet is zigzag. The common stalk is winged towards the top only. Its base is mostly smooth, sometimes shaggy. Dots of fructification large, and soon becoming entirely confluent.

Some differences of opinion have arisen among botanists on the continent concerning my genus of *Cyathea*, for want, as I apprehend, of their being acquainted with all the species, in their different states, which form a chain from *C. arborea* to these small ones. The character consists in the calyx or involucrum, whether of 1 piece or of many, going entirely under the globular receptacle to which the capsules are fixed.





April 1. 1806. Published by Jas. Sowerby, London.

SPLACHNUM mnioides.

Green Tapering Gland-moss.

CRYPTOGAMIA Musci.

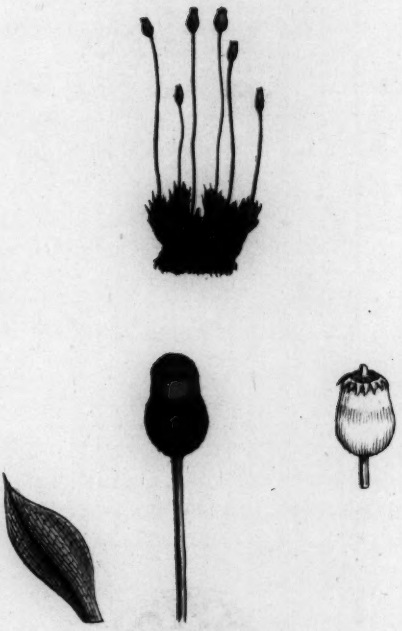
GEN. CHAR. *Caps.* cylindrical, placed on a fleshy *receptacle*. *Fringe* simple, of 16 teeth, standing in pairs.

SPEC. CHAR. Receptacle obconical, green. Leaves elliptic-lanceolate, bearded, entire.

SYN. Splachnum mniodes. *Linn. Fil. Meth. Musc.* 26. *Sm. Fl. Brit.* 1169. *Hedw. Sp. Musc.* 51. *Crypt. v.* 2. 35. *t.* 11. *Dicks. Crypt. fasc.* 1. 2. *With.* 793. *Hull.* 246.

IN the 11th volume of this work, *t.* 786, a *Splachnum* is figured by the name of *mnioides*, which has since been distinguished from that species, and is the *fastigiatum* of the *Flora Britannica*, which name is therefore to be applied to our *t.* 786, and all the references, except to *Dill. t.* 44. *f.* 5, which is certainly right, exchanged for those indicated in *Fl. Brit.* 1172. It is also to be observed that the receptacle in our above-mentioned figure should be of a deep red rather than brown.

The true *mnioides* here represented was received from Mr. Dickson, and agrees with the original Linnæan specimens. Dillenius does not appear to have been acquainted with this. It is scarcely more than half the size of the *fastigiatum*, and of a paler, more yellowish, aspect altogether. It is found in the summer, in moist alpine parts of Scotland and Wales, generally on the dung of foxes and badgers, according to Mr. Griffith. The stems are branched, about an inch high. Leaves upright, entire, tipped with a yellow wavy hair. Receptacle small, inversely conical, green when fresh, not at all red. Capsule as thick, and full as long, as the receptacle, tawny. Lid conical, obtuse, pale brown or yellowish.



April 1. 1806. Published by Jas. Sowerby, London.

SPLACHNUM ovatum.

Ovate Gland-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* cylindrical, placed on a fleshy *receptacle.* *Fringe* simple, of 16 teeth, standing in pairs.

SPEC. CHAR. Receptacle ovate, brownish. Leaves ovate, acute, entire.

SYN. Splachnum ovatum. *Dicks. Crypt. fasc.* 2. 2. *Sm. Fl. Brit.* 1172. *Hedw. Sp. Musc.* 54. *t.* 8. *f.* 4—6. *With.* 793. *Hull.* 246. *Turn. Musc. Hib.* 15.

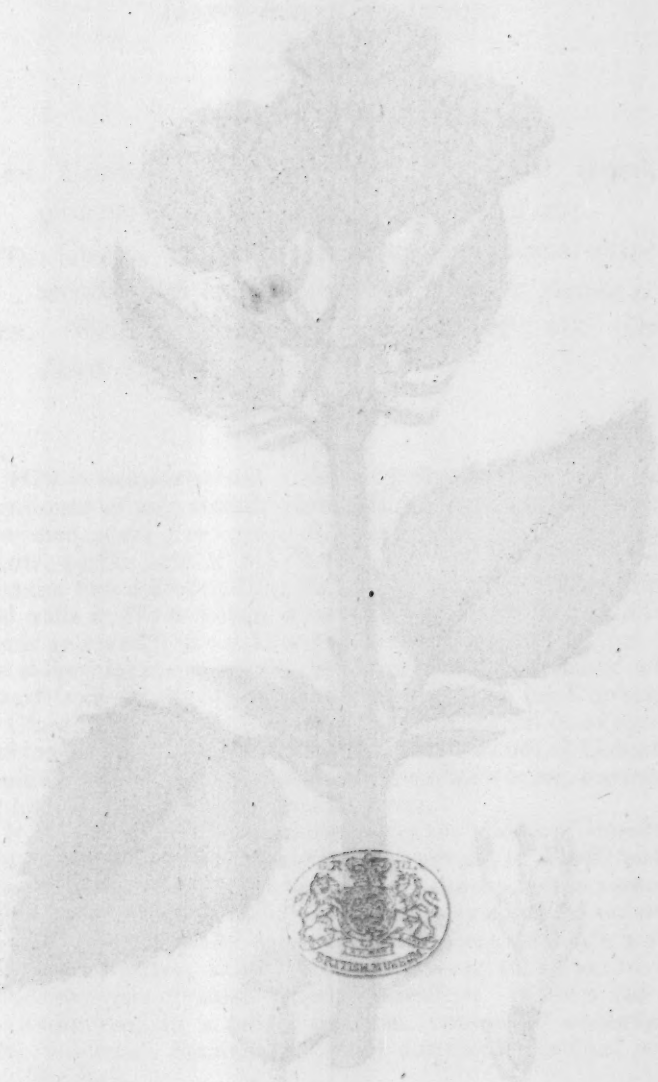
Phascum pedunculatum. *Huds. ed.* 1. 397.

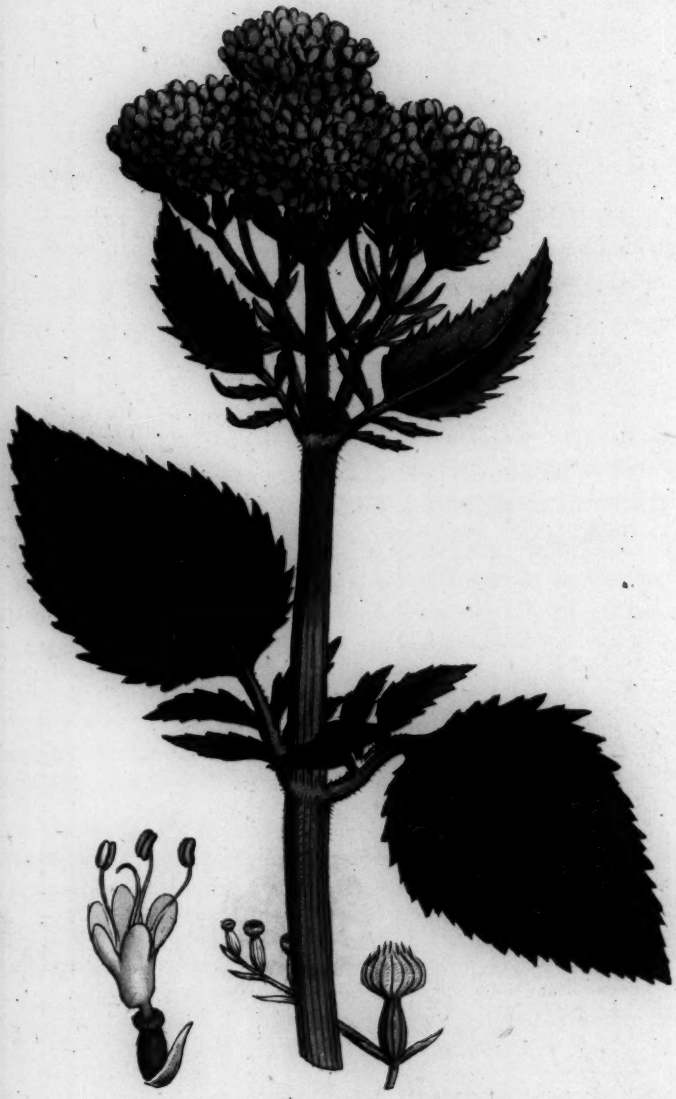
Bryum ampullaceum, foliis serpylli pellucidis, collo crassiore. *Dill. Musc.* 344. *t.* 44. *f.* 4.

B. erectis gigartinis capitulis, foliis serpilli pellucidis, obtusis. *Dill. in Raii Syn.* 93. *t.* 3. *f.* 2.

THESE specimens were gathered by Dr. Francis Buchannan in 1782, at Leney near Stirling, his native place. The glen of Leney has recently been celebrated in the beautiful poetry of Mr. Walter Scott; and from these romantic and sequestered scenes, a long residence in various parts of India has neither perverted the taste, nor weaned the heart, of our friend.

Splachnum ovatum grows on alpine spongy bogs in Scotland, Wales, Ireland and the north of England. The capsules are perfected in June or July. Roots annual. Stem short and simple. Leaves of a broad ovate figure, rather obtuse, with a small point, entire, reticulated, furnished with one strong rib. Fruit-stalk about an inch long, straight, rigid, tawny, paler upwards. Receptacle ovate or somewhat globular, at first green, but soon becoming brown, smooth, not wrinkled. Capsule contracted, much shorter and narrower than the receptacle, tawny. Fringe at length reflexed. Lid conical.





May 1. 1806. Published by Jas. Sowerby, London.

VALERIANA pyrenaica.

Heart-leaved Valerian.

TRIANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Cor.* of 1 petal, superior, gibbous on one side at the base. *Seed* one.

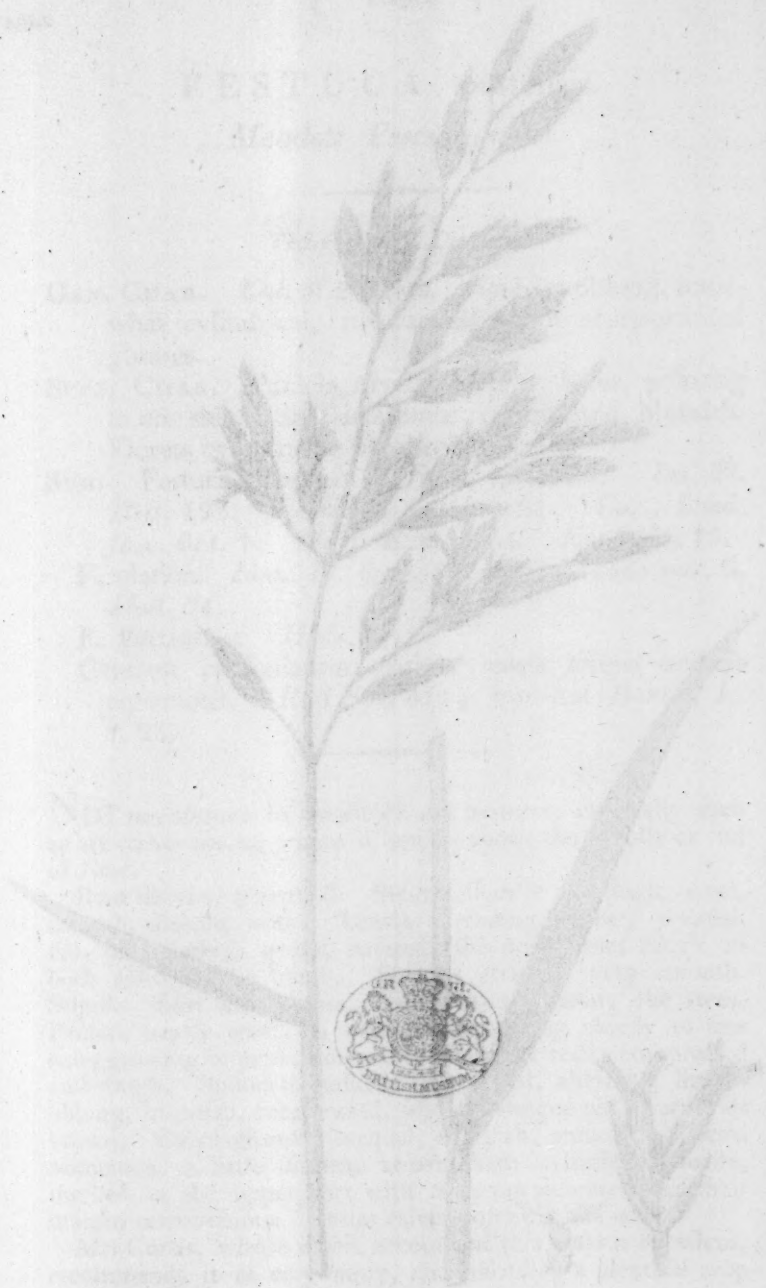
SPEC. CHAR. Stamens three. Stem-leaves heart-shaped, serrated, on footstalks: the uppermost pinnated.

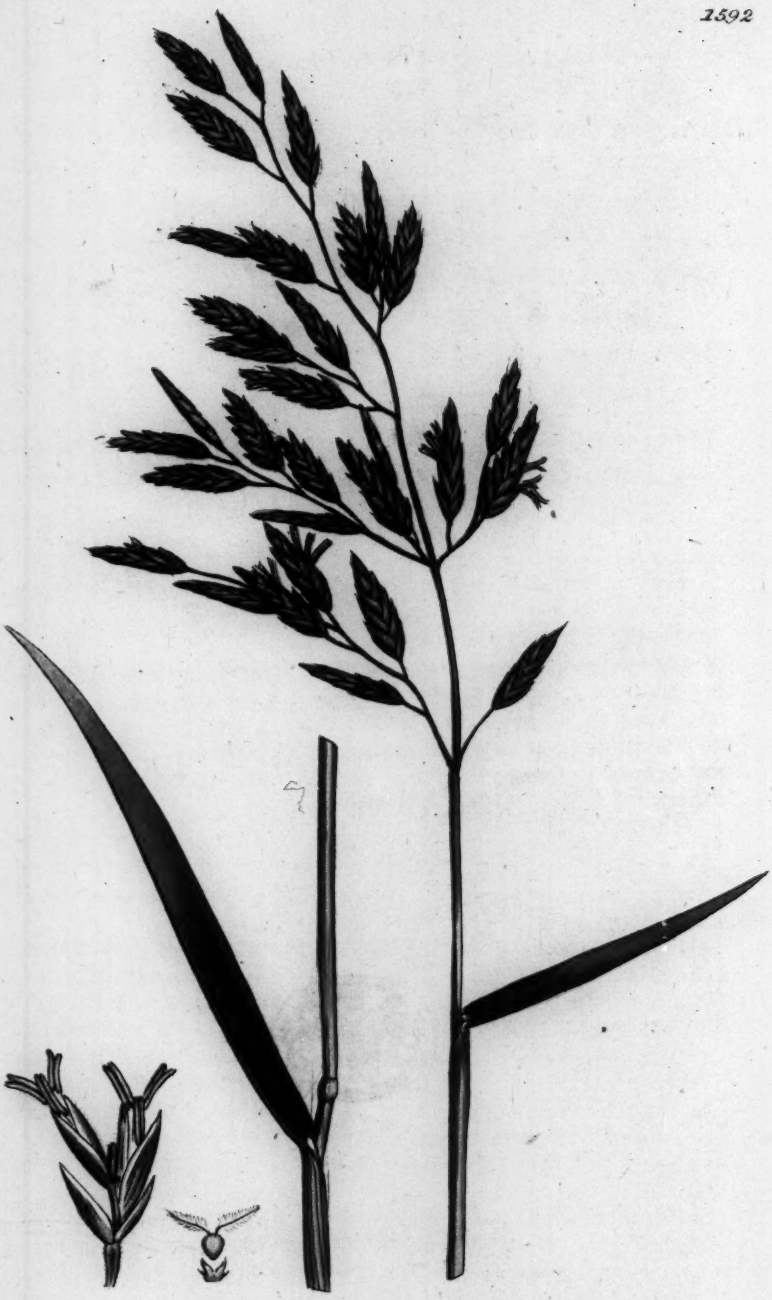
SYN. Valeriana pyrenaica. *Linn. Sp. Pl.* 46. *Don. Herb. Brit. fasc.* 4. 77.

THIS is unquestionably a native of Scotland, though never mentioned in any British Flora till Mr. G. Don published a specimen in his *Herbarium Britannicum*, a work rich in rare plants, particularly of the class *Cryptogamia*. That accurate botanist first discovered the *Valeriana pyrenaica* about ditches and walls at Blair-Adam, Kinross-shire, in 1782, and afterwards gathered it about Glasgow and Edinburgh. To him we are obliged for a specimen. We have also been favoured with others from Dr. Brown, Lecturer on Botany in the University of Glasgow, who has observed this plant several years ago at Daldowie 6 miles from thence, and also in woods at Cumbernauld and Pollok, situations remote from each other, separated by hills, and watered by different rivers.

It is a perennial species, flowering in the middle of summer, and possessing the smell, probably the virtues, of *V. officinalis*. The stems are 2 or 3 feet high, leafy, downy at the summit only. Leaves on footstalks, heartshaped, ovate, acute, smooth, sharply and unequally serrated: the radical, and often the lower stem-leaves, simple; the uppermost accompanied by one or two pair of small lanceolate leaflets. Flowers red or flesh-coloured, in a large, terminal, compound corymbus. Spur obsolete. Stamens 3. Seed furrowed, crowned with feathery rays.

This seems to be a rare plant on the continent, not being mentioned by the Swedish, German or Swiss writers, nor by the French, except Lamarck; neither does it occur in Allioni or Scopoli.





May 2. 1806. Published by Jas. Sowerby, London.

FESTUCA pratensis.

Meadow Fescue-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, somewhat cylindrical, two-ranked, with sharp-pointed glumes.

SPEC. CHAR. Panicle nearly upright, loose, pointing to one side. Spikelets linear, compressed, bluntish. Florets cylindrical, obscurely ribbed.

SYN. Festuca pratensis. *Huds. ed.* 1. 37. *Sm. Fl. Brit.* 123. *Relh.* 38. *Abbot.* 21. *Curt. Lond. fasc.* 6. *t.* 7. *Mart. Rust. t.* 84. *Knapp, t.* 73.

F. elatior. *Linn. Fl. Suec.* 32. *With.* 156, *var.* 2. *Hull.* 24.

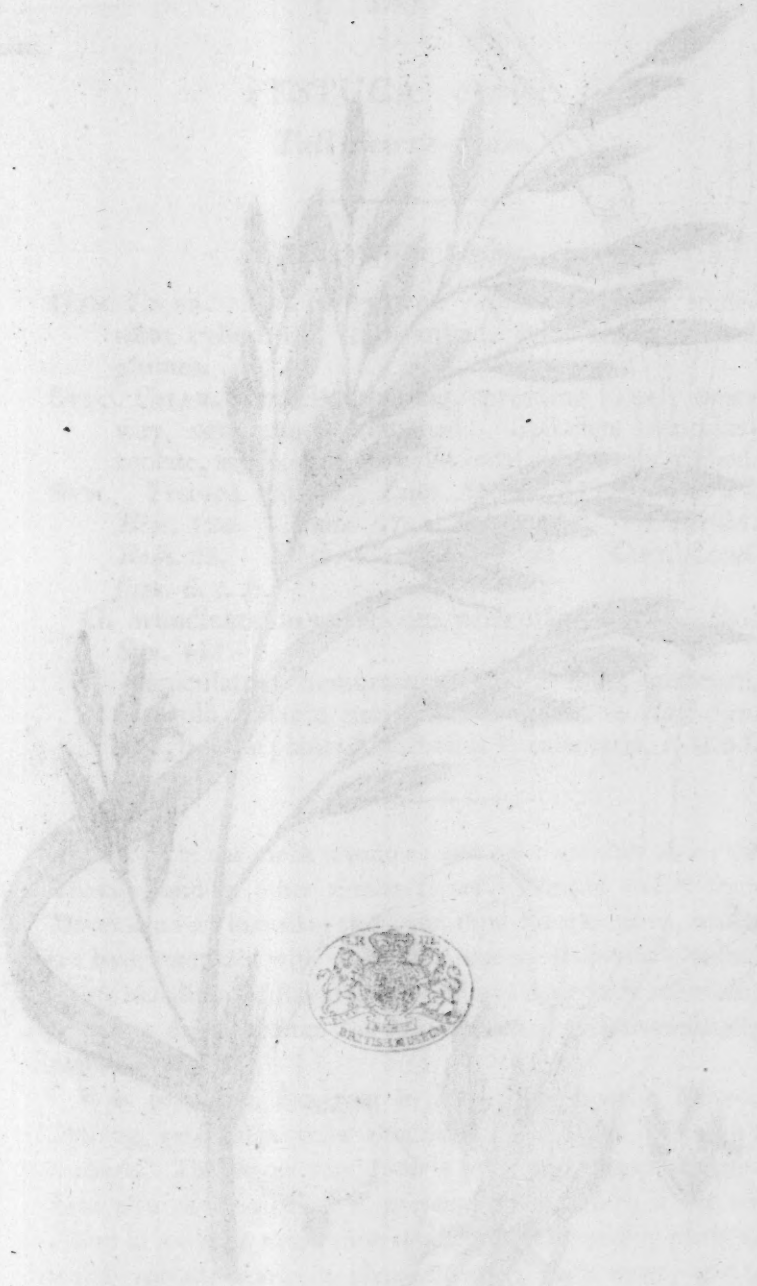
F. fluitans γ. *Huds.* 47.

Gramen paniculatum elatius, spicis longis muticis squamosis. *Raii Syn.* 411; but not *Barrel. Ic. t.* 25.

NOT uncommon in meadows and pastures, especially such as are rather moist, where it flowers about the middle or end of June.

Root fibrous, perennial. Stems about 2 feet high, erect, smooth, simple, leafy. Leaves spreading, linear, pointed, flat, of a darkish green, striated; the upper ones rough on both sides to the touch. Sheaths striated, very smooth. Stipula short and obtuse, decurrent, embracing the stem. Panicle nearly erect, its branches spreading chiefly to one side, growing in pairs, unequal in size; the stalks compressed and rough. Spikelets stalked, divaricated, alternate, linear-oblong, bluntish, compressed, smooth, tinged with purple or brown. Calyx-glumes unequal, sharpish, smooth. Florets numerous, a little distant, two-ranked, cylindrical, acute, marked in the upper part with 5 inconspicuous ribs; their margin membranous. Inner valves downy at the edge.

Mr. Curtis, whose whole account of this grass is excellent, recommends it as very hardy, and affording a plentiful crop of good herbage.



May 1. 1806. Published by Jas Sowerby, London

FESTUCA elatior.

Tall Fescue-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, somewhat cylindrical, two-ranked, with sharp-pointed glumes.

SPEC. CHAR. Panicle drooping, spreading loosely every way, very much branched. Spikelets ovato-lanceolate, acute. Florets cylindrical, obscurely ribbed.

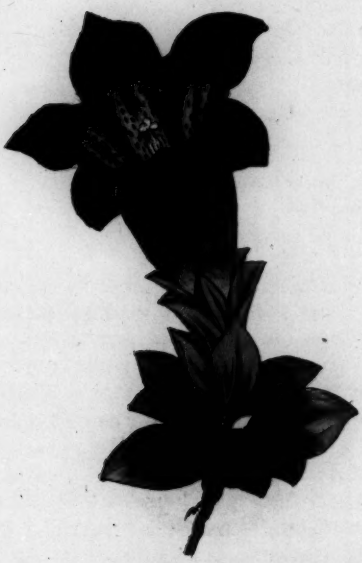
SYN. Festuca elatior. *Linn. Sp. Pl.* 111. *Sm. Fl. Brit.* 124. *Huds.* 47. *With.* 155. *Hull.* 24. *Relh.* 38. *Sibth.* 45. *Abbot.* 21. *Curt. Lond. fasc.* 6. *t.* 8.

G. arundinaceum aquaticum, paniculâ avenaceâ. *Raii Syn.* 411.

G. paniculatum nemorosum, latiore folio, glabrum, paniculâ nutante non aristatâ. *Dill. in Raii Syn.* 411, but the plant of Micheli is F. calamaria, *t.* 1005.

FOUND in the moist meadows and osier-grounds about the Thames, and in other similar places. Sherard had it from Dover in a very luxuriant state; and from his specimens, which we have compared with those of Linnæus, Dillenius admitted it into his edition of Ray, though (unless I am greatly mistaken) it is not different from the species in that work immediately preceding.

It is perennial, flowering in July. The root is fibrous, forming very large tufts producing abundance of coarse herbage. The stems vary from 3 to almost 5 feet in height. Leaves twice the size of *F. pratensis;* from which it further differs in having a much more branched and drooping panicle, which spreads nearly in every direction, with ovate, acute, less compressed spikelets.



May 1. 1806. Published by Jas. Sowerby, London.

GENTIANA acaulis.

Dwarf Gentian.

PENTANDRIA Digynia.

GEN. CHAR. *Cor.* of 1 petal, tubular at the base, destitute of honey-bearing pores. *Caps.* superior, one-celled, two-valved, with 2 longitudinal receptacles. *Seeds* many.

SPEC. CHAR. Flower solitary, five-cleft, bell-shaped, about as long as the quadrangular stalk.

SYN. Gentiana acaulis. *Linn. Sp. Pl.* 330. *Sims and Konig, Annals of Bot. v.* 2. 196. *Turn. and Dillw. Bot. Guide,* 504. *Curt. Mag. v.* 2. *t.* 52. *Jacq. Austr. t.* 135.

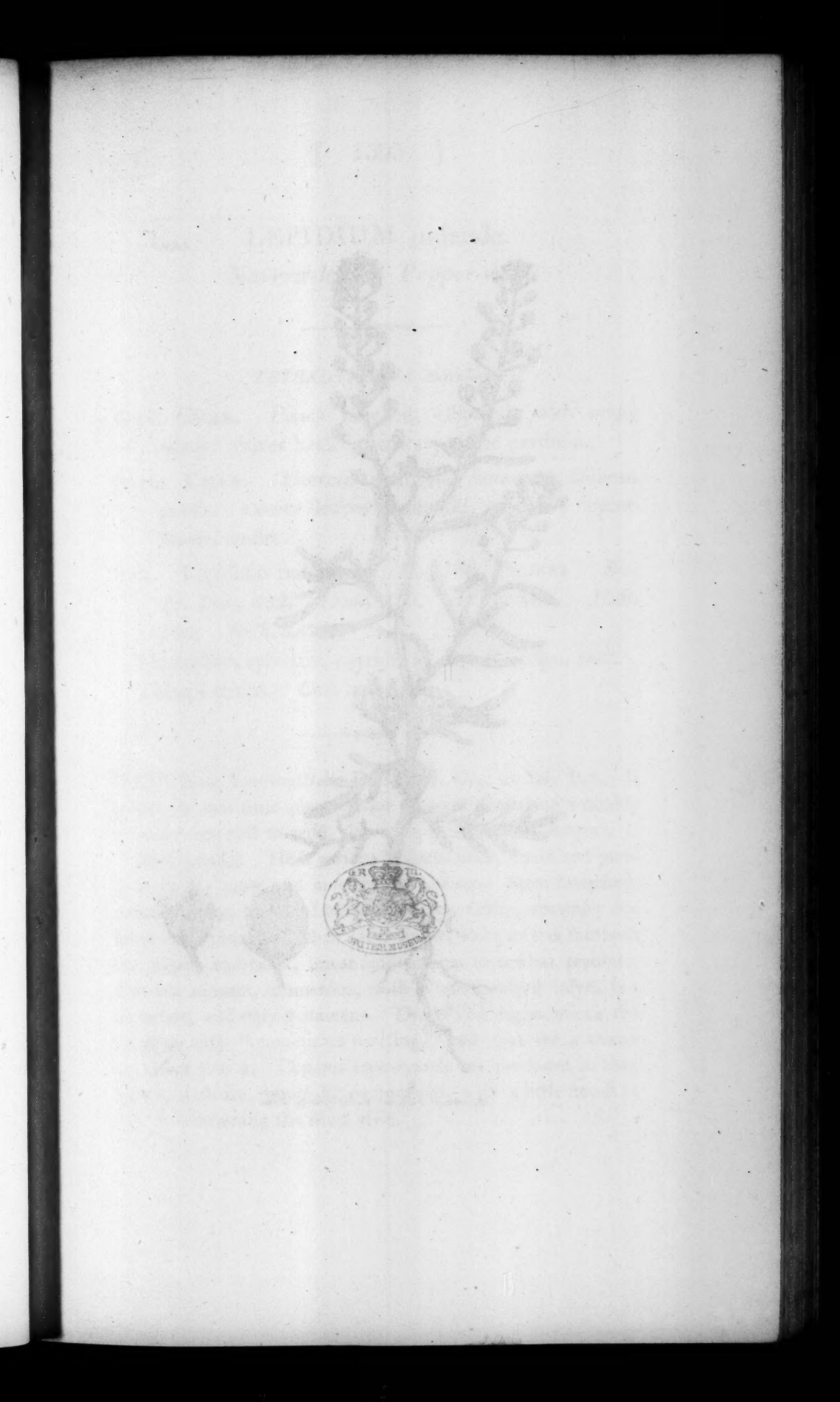
G. alpina. *Schleich. Cat.* 56.

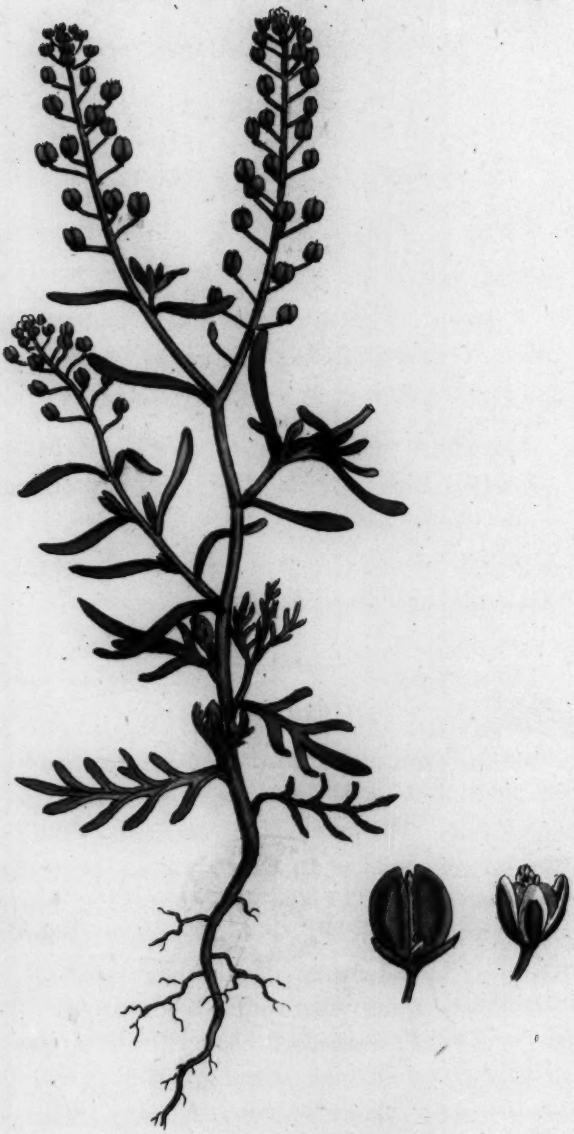
Gentianella verna major. *Ger. em.* 436.

DRAWN from the original specimen gathered near Haverford West in South Wales, and sent to Mr. Konig, by M. de St. Amans, as mentioned in the Annals of Botany, a work which by its great merit and utility has deserved much more patronage from the public than it has experienced, and which, we are sorry to hear, is likely to be discontinued. Its loss to the science of botany in England can scarcely be compensated.

We are nevertheless not at all satisfied of this beautiful *Gentiana* being really a British native. It is common in gardens; and in favourable situations, in the choice of which it is, as Curtis well observes, rather capricious, it will easily run wild. It has been shown us as a wild plant even in Middlesex; which no botanist could assent to. Its natural station is very high on the Alps, where it flowers in June and July.

This cannot be confounded with any other species. The root is perennial, branching, bearing many tufts of sessile, ovate, broad leaves. Stalks or stems very various in length, solitary, square, single-flowered, bearing 1 or 2 pair of leaves. Flower generally longer than the stem, remarkable for its size and beauty.





May 1 1806. Published by Jas Sowerby, London.

LEPIDIUM ruderale.

Narrow-leaved Pepper-wort.

TETRADYNAMIA Siliculosa.

GEN. CHAR. *Pouch* notched, elliptical, with many seeds: valves keeled, contrary to the partition.

SPEC. CHAR. Flowers with two stamens, without petals. Lower leaves pinnatifid, toothed; upper linear, entire.

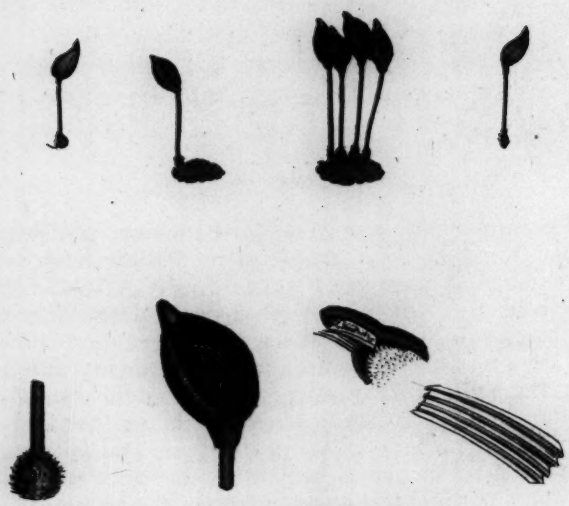
SYN. Lepidium ruderale. *Linn. Sp. Pl.* 900. *Sm. Fl. Brit.* 682. *Huds.* 279. *With.* 568. *Hull.* 145. *Relh.* 252.

Nasturtium sylvestre, osyridis folio. *Raii Syn.* 303.

Thlaspi minus. *Ger. em.* 262.

SENT from Yarmouth by D. Turner, Esq. in July last. It grows in maritime places about rubbish, preferring a muddy or calcareous soil to sand, flowering from June to August.

Root annual. Herb various in luxuriance, fœtid and pungent to the taste and smell when bruised. Stem branched, round, hoary, leafy. Leaves alternate, fleshy, smooth; the lower ones pinnatifid, their lobes linear, more or less toothed; the upper undivided, linear and entire, somewhat revolute. Flowers minute, numerous, with a white-edged calyx, but no petals, and only 2 stamens. Dr. Withering mentions the petals as only "sometimes wanting," and that the stamens are either 2 or 4. Copious seed-vessels are produced in long spikes, and are roundish, compressed, with a little notch at the top containing the short style.



May 2. 1806. Published by Jas Sowerby, London.

BUXBAUMIA aphylla.

Naked-stalked Buxbaumia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* ovate, oblique, gibbous on one side. *Outer fringe* obsolete: *inner* membranous, plaited.

SPEC. CHAR. Capsule on a granulated stalk, rising from a hairy bulb.

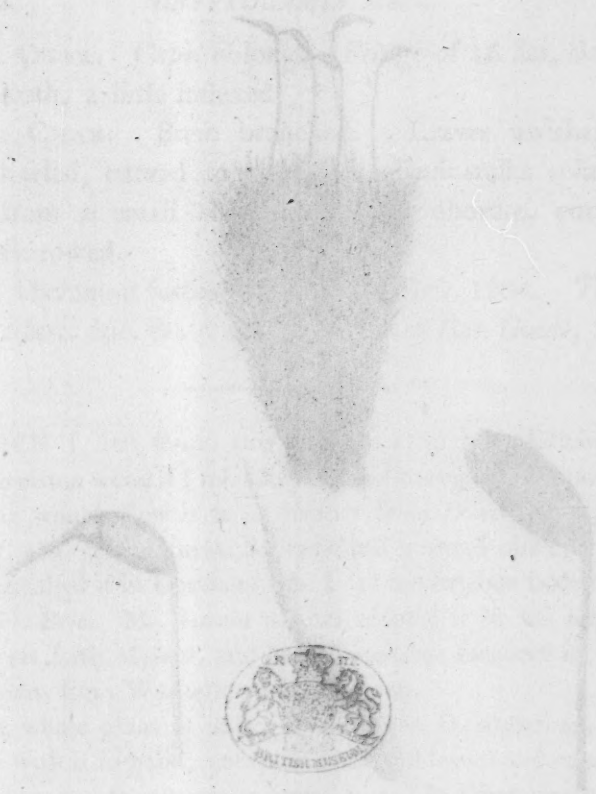
SYN. Buxbaumia aphylla. *Linn. Sp. Pl.* 1570. *Turn. Musc. Hib.* 104. *Wade Pl. Rar. Hib. cum Ic. Fl. Dan. t.* 44. *Ehrh. Phyt.* 10.

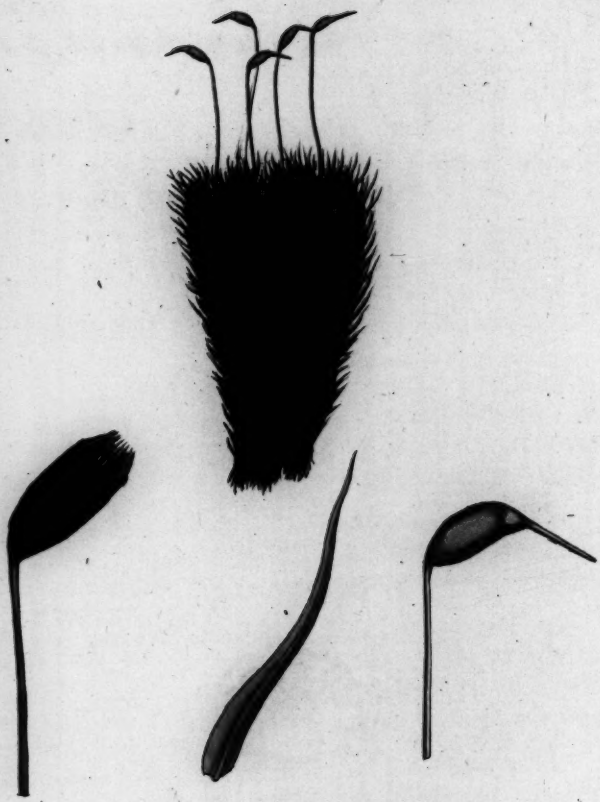
B. caulescens. *Schmid. Buxb.* 25. *t.* 1. *f.* 1—25.

Muscus capillaceus aphyllos, capitulo crasso bivalvi. *Buxb. Cent.* 2. 8. *t.* 4. *f.* 2. *Dill. Musc.* 477. *t.* 68. *f.* 5.

THIS curious moss, discovered by Buxbaum near Astracan, and since found in Sweden, Germany and Switzerland, was first mentioned as a native of Ireland by Dr. Wade. No one had observed it in Britain, though it might reasonably be expected here, till Mr. William Jackson Hooker, a young naturalist of great promise, brought me growing specimens, towards the end of December 1805, from a plantation at Sprowston, not 3 miles from Norwich on the borders of Moushold heath, where the soil is of a turfy and sandy nature. About half a score plants only have as yet been detected, though some of the most acute botanists of my acquaintance have been at the spot.

The root is presumed to be annual, and bears a bulb or knob clothed with brown hairs, which are perhaps equivalent to leaves, and among which the stamina are naturally to be expected, but no one has yet observed them. From this bulb rises a solitary, red, granulated, simple stalk, half an inch or more in height, bearing an elliptical oblique shining capsule, more or less green or red, the upper side of which shows the seeds through a semitransparent coat, the cavity in which they are lodged being oblique and lateral. The veil we have not seen. The lid is red, conical, short and obtuse. Inner fringe a plaited undivided membrane; outer, as figured by Hedwig, of 16 short blunt teeth, which look like the lacerated remains of the lid, and which do not appear in our specimens. Schmidel's exquisite figures countenance our ideas on this subject.





May 2. 1806. Published by Jas Sowerby, London.

DICRANUM fuscescens.

Brown Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

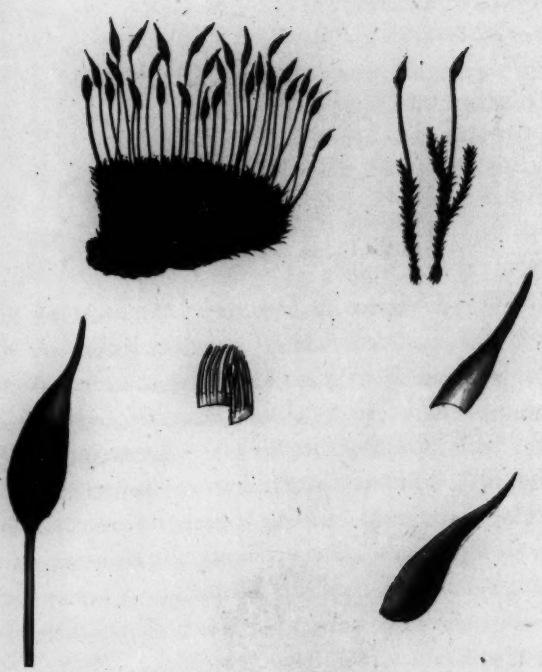
SPEC. CHAR. Stem branched. Leaves awlshaped, keeled, curved to one side. Fruit-stalks solitary, from a small sheath. Capsule obovate, curved, furrowed.

SYN. Dicranum fuscescens. *Sm. Fl. Brit.* 1204. *Turn. Musc. Hib.* 60. *t.* 5. *f.* 1. *Winch Bot. Guide*, 102.

WHEN I first found this moss in 1782 near Edinburgh (in Rivelston wood if I mistake not) and brought it to London, no one would allow it to be distinct from *D. scoparium*, see *v.* 5. *t.* 354. The accurate Schrader has however observed and distinguished it in Germany, and I did not hesitate to describe it in *Fl. Brit.* Mr. Turner too has adopted it in his elegant work on Irish Mosses, and Mr. Winch has favoured us with specimens from Waskerly park, Durham.

The whole plant is rather smaller than *D. scoparium*, but agrees with it in habit, except that the old leaves and capsules are more apt to assume a brown hue. It differs essentially from that species in having a furrowed and more obovate capsule, the stalk of which is sheathed with much fewer and narrower leaves than in *D. scoparium*. The leaves of the stem are also more taper and always perfectly entire in *D. fuscescens*. *D. flagellare* differs from it in being smaller, with an upright capsule, more zigzag-pointed leaves, curled (as Mr. Turner observes) when dry, and almost entirely destitute of a rib or nerve.

BRITISH MUSEUM



May 1. 1806. Published by Jas. Sowerby, London.

TRICHOSTOMUM lineare.

Linear-leaved Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves linear-lanceolate, imbricated, acute. Capsule elliptical. Lid conical, oblique. Stem erect.

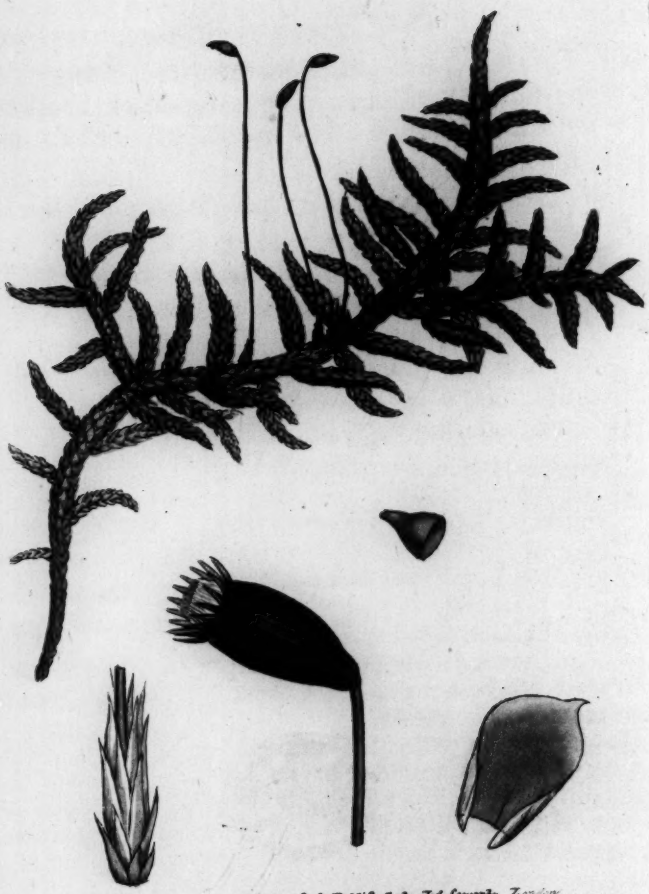
SYN. Trichostomum lineare. *Sm. Fl. Brit.* 1246. *Winch Bot. Guide*, 105.
Bryum lineare. *Dicks. Crypt. fasc.* 3. 6. *t.* 8. *f.* 2. *With.* 837. *Hull.* 265.

MR. DICKSON discovered this moss in the south of Scotland. The Rev. H. Davies has gathered it in many parts of North Wales, and Mr. Winch has communicated it to Mr. Sowerby from rocks in the Ouse Bourn near Haddrick's mill, Northumberland. It grows in wet places, on a calcareous or sandy soil, and bears its fruit in the spring.

Roots perennial. Stems tufted, branched, erect, an inch or inch and half high, leafy. Leaves loosely imbricated, rather spreading, varying from a narrow, acute, almost linear, to an ovate form; they are indeed always rather broad at their base; their margin is entire and somewhat revolute, and they have a strong reddish rib; their colour in Mr. Davies's specimens is yellowish, in Mr. Winch's inclining to a blackish hue, both indicating a watery place of growth. Fruitstalks red, near an inch long. Capsule erect, elliptical, smooth, brown. Lid nearly of the same length, conical, with an oblique taper point. Fringe reddish, delicate, straight, shorter than in many other species.

The habit of this plant rather indicates a *Tortula*, but the fringe is truly that of a *Trichostomum*.

BRITISH MUSEUM



May 1. 1806. Published by Jas Sowerby, London.

HYPNUM purum.

Neat Meadow Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem pinnated. Leaves elliptical, inflated, obtuse with a small point, single-ribbed at the base. Lid conical, curved.

SYN. Hypnum purum. *Linn. Sp. Pl.* 1594. *Sm. Fl. Brit.* 1313. *Hedw. Sp. Musc.* 253. *t.* 66. *f.* 3—6. *Huds.* 504. *With.* 863. *Hull.* 273. *Relh.* 436. *Sibth.* 300. *Abbot.* 250. *Curt. Lond. fasc.* 3. *t.* 65. *Turn. Musc. Hib.* 175.

H. cupressiforme vulgare, foliis obtusis. *Dill. Musc.* 309. *t.* 40. *f.* 45.

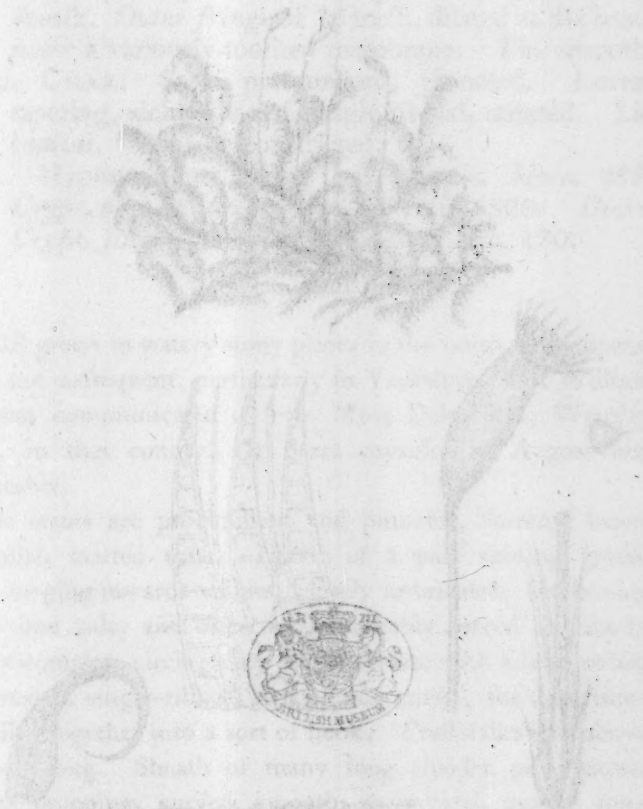
H. terrestre erectum, ramulis teretibus, foliis inter rotunda et acuta medio modo se habentibus. *Raii Syn.* 81.

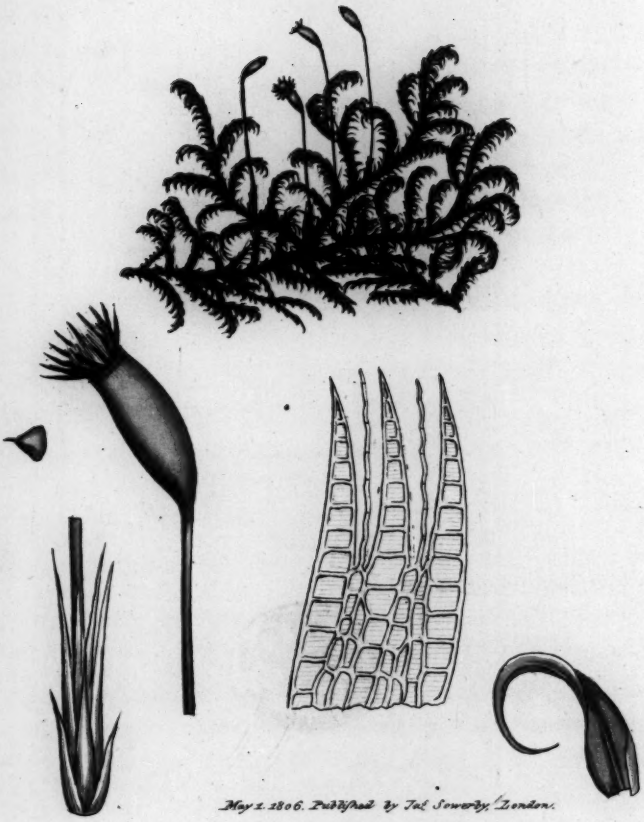
PLENTIFUL in moist and shady pastures, also about hedge banks, but not regularly producing capsules. Their most general season, according to Mr. Curtis, is November; we have also found them in the spring.

This is truly a beautiful moss, remarkable for the neat shining inflated appearance of its leaves. The stems form large light elastic tufts, growing seldom quite upright, often horizontally, and are subdivided, besides being branched in a pinnate manner. The branches are short, simple, round, acute, recurved. Both the stem and branches are clothed with closely imbricated (though inflated) broad elliptical obtuse entire leaves, each tipped with a little flat point, and marked at the base by one short nerve. Their colour is a light shining green, turning whitish with age. Sheaths cylindrical, of many pale narrow leaves. Fruitstalks solitary, red, 2 inches long, erect. Capsule elliptical, drooping, smooth, more or less curved, a little tumid at the base. Lid conical, with a curved point.

HYPNUM undulatum.

Procumbent Waved Feather-moss.





May 1. 1806. Published by Jas. Sowerby, London.

HYPNUM uncinatum.

Procumbent Hooked Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

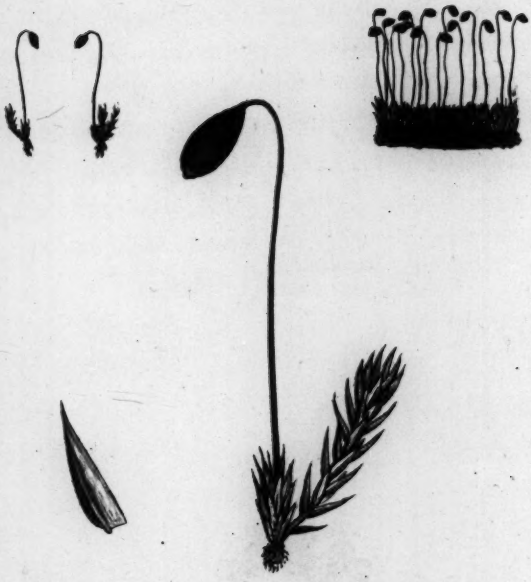
SPEC. CHAR. Stem procumbent, pinnated. Leaves tapering, sickle-shaped, single-ribbed, striated. Lid conical. Capsule constricted.

SYN. Hypnum uncinatum. *Hedw. Sp. Musc.* 289. *Crypt. v.* 4. 65. *t.* 25. *Sm. Fl. Brit.* 1328. *Dicks. Crypt. fasc.* 4. 19. *Turn. Musc. Hib.* 190.

THIS grows in watery stony places in the north, and appears to be not unfrequent, particularly in Yorkshire. Mr. William Brunton communicated it from Moss Dale Head, Wensley Dale, in that county. It bears capsules in August and September.

The stems are procumbent and pinnated, forming loose, perennial, matted tufts. Leaves of a pale shining green, often verging towards yellow, closely imbricated, but leaning all to one side, and often so remarkably curved as each to form a complete circle; they are lanceolate with a long point, compressed, single-ribbed, striated and entire; the uppermost are rolled together into a sort of hook. Fruitstalks red, above an inch long. Sheath of many long slender pale leaves. Capsule drooping, curved, smooth, cylindrical, mostly contracted under the mouth, which is much dilated. Lid conical, short, acute. We exhibit in the plate a morsel of the inner fringe highly magnified, to show its curious structure, which indeed is common to many of the genus. Hedwig represents the intermediate teeth in pairs.

2602



May 1 1806. Published by Jas Sowerby, London.

BRYUM bicolor.

Two-coloured Thread-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Outer fringe* of 16 teeth, broad at the base: *inner* a toothed membrane. *Flowers* terminal. *Capsule* ovate-oblong, smooth. *Veil* smooth.

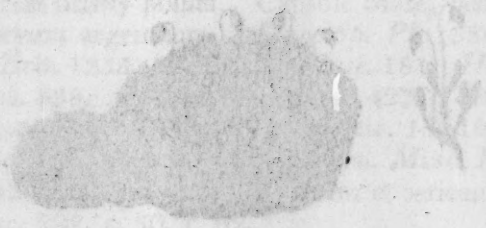
SPEC. CHAR. Stem very short, branched at the base. Leaves ovato-lanceolate, pointed. Capsule ovate, obtuse, pendulous.

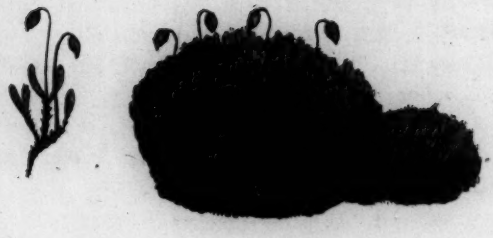
SYN. Bryum bicolor. *Dichs. Crypt. fasc.* 4. 16. *Sm. Fl. Brit.* 1355. *Turn. Musc. Hib.* 121. *t.* 11. *f.* 2.
B. n. 66, varietas parva. *Dill. Muse.* 397. *t.* 50. *f.* 66, F, G.

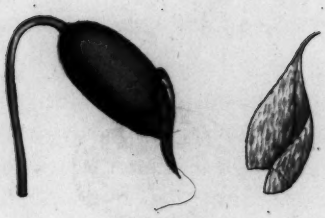
COMMUNICATED by Mr. W. Brunton from the neighbourhood of Ripon, Yorkshire. It bears capsules in March, and is supposed to be perennial. I have it from Switzerland, and have also gathered it near Rome. It loves a barren sandy soil.

The plants grow in rather loose tufts, and are very short, throwing up a branch or two from their base which rises above the original stem. Leaves pale yellowish green, imbricated, ovato-lanceolate, acutely pointed, entire, single-ribbed, nearly flat, not inflated. Fruitstalk from the top of the primary stem, though apparently from the base of the branches, half an inch or more in height, red and shining, its top curved and often greenish. Capsule pendulous, ovate or obovate, obtuse, red, or partly yellowish, generally of a deep blood red. Lid convex with a little point, often red, sometimes yellowish, shining. Fringe yellow or of a tawny hue.

Dillenius thought this a variety of *B. cæspititium*, but that is much larger and greener, and has hair-pointed leaves.







May 1. 1806. Published by Jas. Sowerby, London.

BRYUM argenteum.

Silvery Thread-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Outer fringe* of 16 teeth, broad at the base: *inner* a toothed membane. *Flowers* terminal. *Capsule* ovate-oblong, smooth. *Veil* smooth.

SPEC. CHAR. Stems tufted, branched from the base. Leaves ovate, concave, imbricated, with pellucid colourless bristly points. Capsule ovate, pendulous.

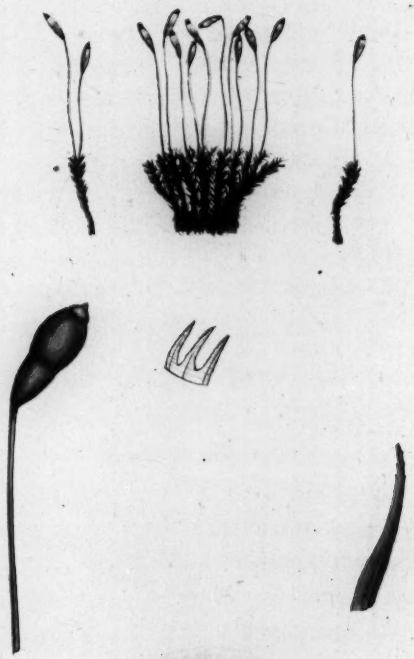
SYN. Bryum argenteum. *Linn. Sp. Pl.* 1586. *Sm. Fl. Brit.* 1355. *Hedw. Sp. Musc.* 181. *Huds.* 489. *With.* 838. *Hull.* 256. *Relh.* 427. *Sibth.* 293. *Abbot.* 243. *Dicks. H. Sicc. fasc.* 15. 19. *Curt. Lond. fasc.* 3., *t.* 67. *f.* 2. *Turn. Musc. Hib.* 122.

B. pendulum julaceum, argenteum et sericeum. *Dill. Musc.* 392. *t.* 50. *f.* 62.

B. capitulis subrotundis reflexis, cauliculis teretibus argenteis. *Raii Syn.* 100.

COMMON in the spring on dry open spots, especially on the tops of walls and stone roofs, where its beautiful silvery hue in moist weather renders it impossible to be overlooked or mistaken.

The stems form perennial, round, cushion-like tufts, and when separated are found to be much branched, about half an inch high, with cylindrical blunt branches, tapering at the base. Leaves closely imbricated on all sides, of a broad ovate figure, swelling, entire, single-ribbed, tipped with a hair, more or less of their upper part pellucid and colourless, which gives the silvery appearance above mentioned. The fruitstalks come forth in the early spring, from the tops of old branches, just where the new ones originate, and are not an inch long, red below, pale and curved at the summit. Capsule of a short ovate form, brown or reddish. Lid convex with a point. Veil small, soon falling off. Fringe yellow.



June 1. 1806. Published by Jas. Sowerby, London.

BRYUM elongatum.

Elongated Thread-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Outer fringe* of 16 teeth, broad at the base: *inner* a toothed membrane. *Flowers* terminal. *Capsule* ovate-oblong, smooth. *Veil* smooth.

SPEC. CHAR. Stem nearly simple. Leaves linear-lanceolate, thick-edged. Capsule inclining, cylindrical, tapering at the base.

SYN. Bryum elongatum. *Sm. Fl. Brit.* 1349. *Dicks. Crypt. fasc.* 2. 8. *With.* 832. *Hull.* 263. *Turn. Musc. Hib.* 114.

Pohlia elongata. *Hedw. Sp. Musc.* 171. *Crypt. v.* 1. 96. *t.* 36. *Ehrh. Crypt.* 64.

DILLENIUS gathered this moss on Clogwyn y garnedd, North Wales, as appears from his herbarium, and confounded it with *B. nutans*, his N° 61, from which it is very distinct. Our specimens were collected on Ingleborough, Yorkshire, by Mr. W. Brunton. The capsules ripen in June and July.

Roots slender, tufted, black, perennial. Stems erect, slender, generally about half an inch high, simple, leafy, sometimes, from luxuriance, branched. Leaves dark shining green, rather spreading, lanceolate or linear-lanceolate, acute, beardless, single-ribbed, with an entire, somewhat thickened margin. Fruitstalk an inch or inch and half high, mostly solitary, upright, of a shining tawny red, yellowish at the top. Capsule more or less inclining, not pendulous; when young, obovate and a little curved; when ripe longer, and almost cylindrical, its lower half, or thereabouts, consisting of an inversely conical base. The mouth is narrow, the lid short, conical and acute, of an orange hue. Outer fringe rather short, pale brown; inner white, simply toothed, as Hedwig describes it.

June 2. 1806. Published by Jas Sowerby, London

BRYUM crudum.

Transparent-green Thread-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Outer fringe* of 16 teeth, broad at the base: *inner* a toothed membrane. *Flowers* terminal. *Capsule* ovate-oblong, smooth. *Veil* smooth.

SPEC. CHAR. Stem simple. Leaves lanceolate, acute, entire; the uppermost narrow and minutely toothed. Capsule oblong, drooping.

SYN. Bryum crudum. *Huds.* 491. *Sm. Fl. Brit.* 1361. *Hull.* 266. *Turn. Musc. Hib.* 130.

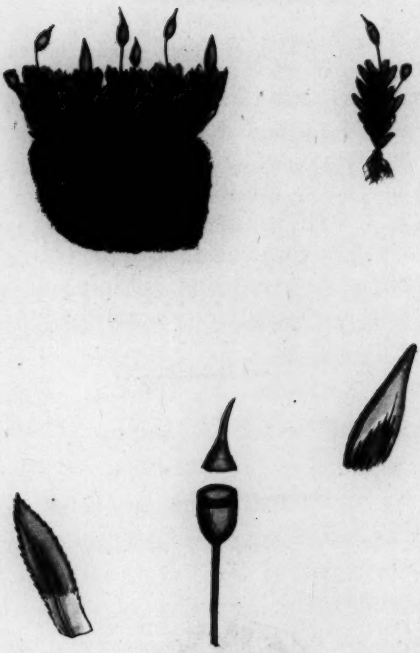
B. sericeum. *Huds.* 487, according to Rev. H. Davies.

B. pendulum hornum molle, foliis lanceolatis et gramineis. *Dill. Musc.* 401. *t.* 51. *f.* 70.

Mnium crudum. *Linn. Sp. Pl.* 1576. *Hedw. Sp. Musc.* 189. *Crypt. v.* 1. 99. *t.* 37. *With.* 807. *Ehrh. Crypt.* 152.

GATHERED by Mr. W. Brunton at Moss Dale Head, Wensley Dale, in the north of Yorkshire. It bears fruit in the summer, and is perennial.

We have compared our specimens with original ones of Dillenius, Hedwig, Ehrhart, and other writers. Much affinity is observable between this species and *B. elongatum*, though there are abundant marks of distinction, particularly in the inner fringe, which in *B. crudum* has the usual structure of the genus. The size of the whole plant is also twice as large; the leaves are much broader, and thin at the edge, the upper ones only being lengthened out into a narrow linear shape and slightly toothed; the capsules are thicker, when ripe rather oblong than ovate, with much less of that base or *apophysis* into which the cavity for the seeds does not extend. The lid is like *B. elongatum*. We conceive that these 2 species ought naturally to be placed near each other, though in the *Flora Britannica*, out of deference to the method of Hedwig, they stand far asunder. The natural distribution of all the species, as well as genera, of mosses with respect to each other, can only be perfected by degrees, when more exotic ones are observed with this particular view.



June 2 1806. Published by Jas Sowerby, London.

POLYTRICHUM Dicksoni.

Dwarf Short-stalked Hair-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* swelling. *Outer fringe* of 32 or 64 short, flat, incurved teeth: *inner* a circular, transverse membrane, attached to the points of the former. *Veil* generally double; the outermost hairy.

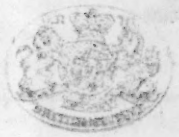
SPEC. CHAR. Leaves linear-lanceolate, obtuse, rigid, serrated. Capsule cylindrical, erect. Lid conical, taper-pointed. Stem mostly simple.

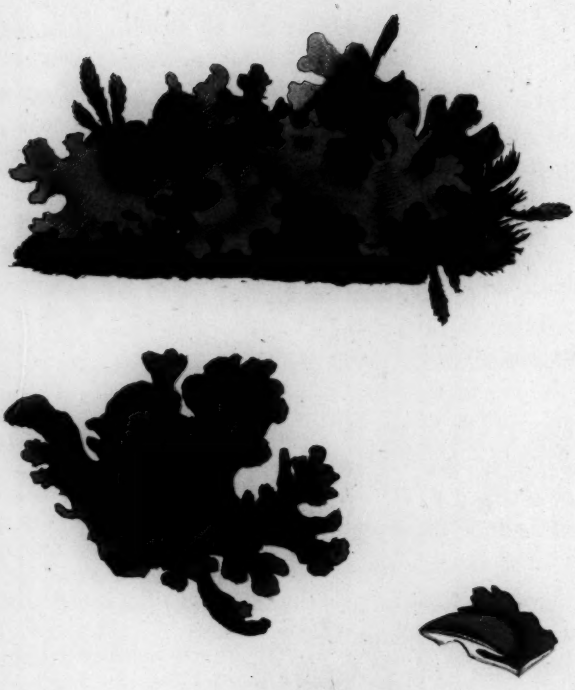
SYN. Polytrichum Dicksoni. *Turn. Musc. Hib.* 90. *t.* 10. *f.* 2.

FOR specimens of this moss, gathered on sandy banks near Yarmouth in April 1805, we are obliged to Mr. Turner, who also received it from Ireland, as mentioned in his work on Irish Mosses, and who has named it after its original observer Mr. Dickson.

It is nearly allied to several small species of its genus, which we have not yet had an opportunity of figuring. We shall therefore describe it without referring to those species.

Root of many dense woolly fibres, probably perennial. Stems half an inch high, erect, simple or slightly branched, leafy. Leaves crowded, rigid, dark green with a tinge of purple, smooth, rather spreading when wet, a little incurved when dry; they are nearly linear, obtuse, keeled, their margin and keel serrated. Fruitstalks red, not much exceeding the leaves in length. Capsule quite erect, of a short cylindrical form, rounded at the base, smooth, purplish or glaucous. Fringe red, of about 32 teeth. Lid when young and moist conical, with a taper point; when dried the base becomes contracted and depressed. Outer veil composed of dense brown hairs.





June 1 1806. Published by Jas. Sowerby, London.

LICHEN glaucus.

Glaucous Leafy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Membranaceous, smooth, polished on both sides, lobed, jagged and curled; glaucous above; black beneath. Shields marginal, slightly bordered, red brown; at length flat, smooth.

SYN. Lichen glaucus. *Linn. Sp. Pl.* 1615. *Achar. Prod.* 167. *Huds.* 543. *With. v.* 4. 53. *Hull.* 296. *Lightf.* 838. *Sm. Tour, v.* 1. 336.
Lichenoides endiviæ foliis crispis et splendentibus, subtùs nigricantibus. *Dill. Musc.* 192. *t.* 25. *f.* 96.
Cetraria glauca. *Ach. Meth.* 296.

THIS Lichen is found in mountainous countries on rocky moors or heaths, as well as on the trunks of old trees. The late Rev. H. Bryant first observed it in Norfolk on old pales at Sall. The Rev. G. R. Leathes sent us specimens from damp parts of the heath near the place of growth of *Buxbaumia aphylla, t.* 1596. We subjoin a figure of the only British specimen we have ever seen in fructification, communicated by Mr. Dickson from Scotland, which is the more valuable, as Acharius himself never saw the shields, and it is not clear that Dillenius really knew them.

The fronds form loose straggling tufts, and are thin and membranous, very pliable when wet, smooth and shining on both sides when dry, variously lobed, sinuated and curled; glaucous variegated with brown above; black, but pale at the edges, underneath. The shields grow on or near the margin, almost sessile; when young they are convex, with a jagged inflexed border of the substance of the frond; when old they are flat; at all times smooth, of a red brown, or bay colour.

When the frond is morbidly inflated it becomes the *L. ampullaceus* of Linnæus, as I have verified by specimens belonging to Mr. Menzies. See *Trans. of L. Soc. v.* 7. 112, and *Ach. Meth.* 297.

June 1 1806. Published by Jas. Sowerby, London.

LICHEN pollinarius.

Mealy-cracked Leafy Lichen.

CRYPTOGAMIA Algæ.

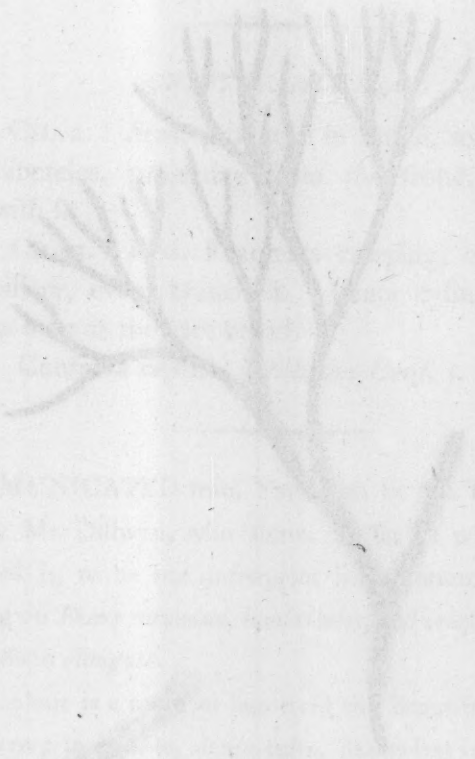
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, leathery, spreading, smooth, pitted, greenish grey, sprinkled with powdery cracks: the lobes jagged, in linear segments. Shields nearly terminal, slightly elevated, buff-coloured, with a greenish, inflexed, smooth border.

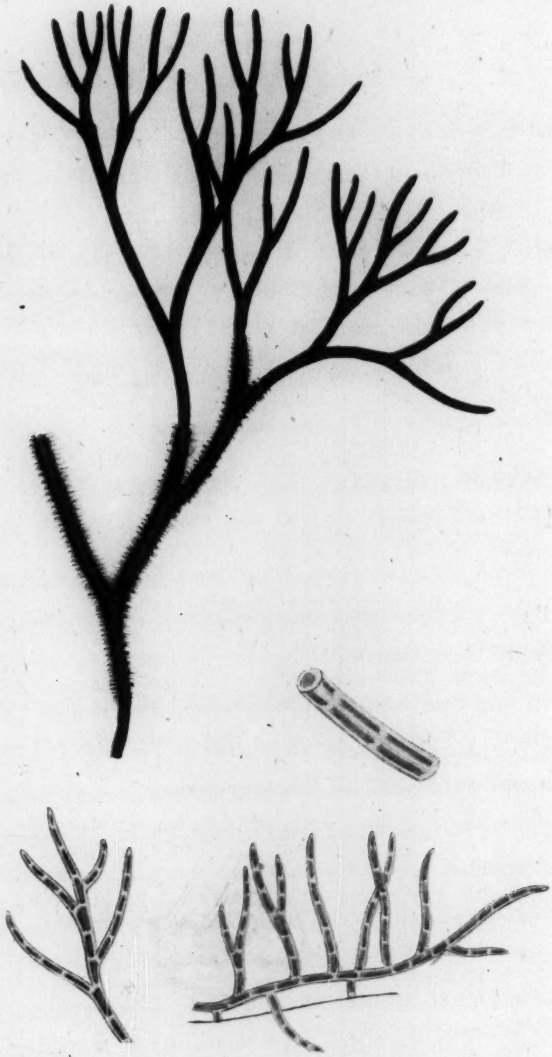
SYN. Lichen pollinarius. *Ach. Prod.* 178. *Act. Holm. ann.* 1797. 263. *t.* 11. *f.* 2.
Parmelia pollinaria. *Ach. Meth.* 264.
Lichenoides lacunosum lacerum, latius et angustius. *Dill. Musc.* 163. *t.* 21. *f.* 57.

FOR the fine specimens of this Lichen here represented we are obliged to Charles Lyell, Esq., who gathered them on an old oak in Testwood Park, New Forest, Hants. They precisely accord with every part of Dillenius's description, though that author never saw the shields. They also agree with specimens from Acharius, though he has chiefly gathered and described the more common state of the plant, as it grows on old barn doors, and seems not to have recognised the synonym of Dillenius.

The fronds grow in a tufted and spreading manner, varying greatly in size and in breadth. The white mealy cracks which appear on them when old or dry are characteristic. Their proper greenish grey hue turns to a yellowish buff with age, as Dillenius also observes. The shields stand very near, or upon, the margin, and are slightly elevated on a thick wrinkled stalk, which runs into a broad, inflexed, smooth border of the same colour and texture as the frond. The disk is flattish, mostly cracked by age, pale buff. Acharius mentions this Lichen as very good for dyeing wool or silk pale red or dark brown.



BRITISH MUSEUM



June 1. 1806. Published by Jas. Sowerby. London.

CONFERVA repens.

Red Creeping Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

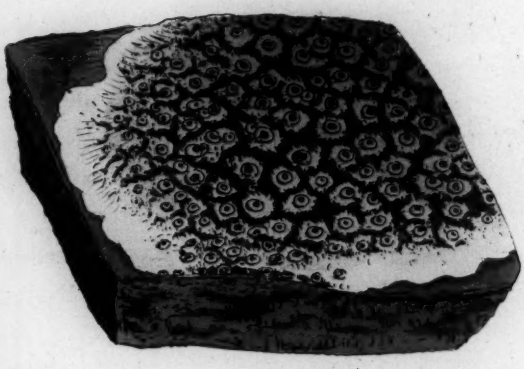
SPEC. CHAR. Red. Filaments creeping, crowded, capillary, even, branched. Joints cylindrical, twice as long as they are broad.

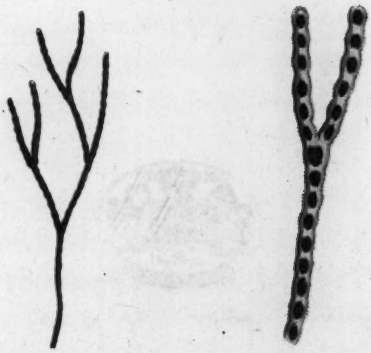
SYN. Conferva repens. *Dillwyn. Conf. t.* 18.

COMMUNICATED from Yarmouth by Mr. Turner. It is said by Mr. Dillwyn, who alone, as far as we know, has described it, to be not unfrequent in the autumnal months, growing on *Fucus rotundus*, *lumbricalis*, and *crispus*, as well as on *Conferva elongata*.

The colour is a more or less vivid and beautiful red. The fronds creep in minute, dense tufts, like velvet or plush, over the round stalks of the abovementioned sea-weeds, adhering by short roots or fibres, and are branched; the branches simple or compound, capillary, obtuse, nearly of equal thickness throughout, their joints cylindrical, and scarcely swelling in any part, full twice as long as they are broad, the interstices not contracted, but visible by means of their colourless transparency. The fructification has not been observed.

We entirely omit the synonym of Dillenius, *tab.* 4, *fig.* 21, on the authority of Mr. Turner, *Trans. of Linn. Soc. v.* 7. 106.





June 2. 1806. Published by Jas Sowerby London.

CONFERVA lichenicola.

Red Lichen Conferva.

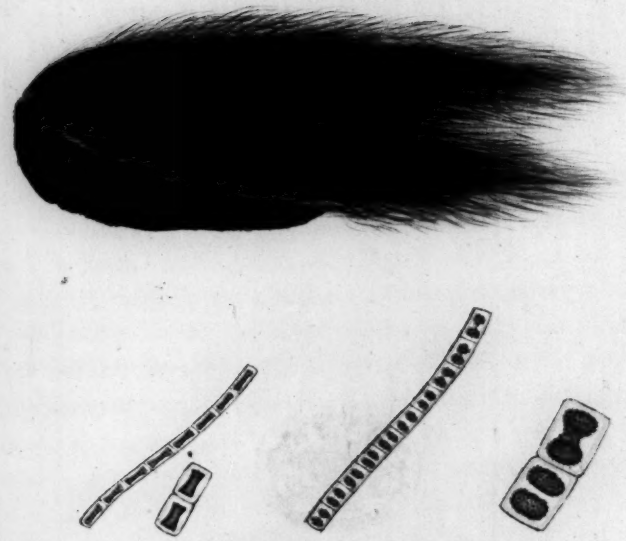
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Red. Filaments upright, crowded, alternately branched, roughish. Joints swelling, about as long as they are broad.

FINE specimens of this singular production, from Beech trees of the New Forest, Hants, were communicated by Charles Lyell, Esq. to Mr. Sowerby, who found it to be a new *Conferva*, growing parasitically on *Lichen Turneri, inclusus*, and other crustaceous kinds, and to whom we are obliged for a knowledge of its structure, as well as for its name. I ought indeed to have observed, at *p.* 1556, that Mr. Sowerby originally discovered and figured the jointed structure of *Byssus* (now *Conferva*) *aurea*, which honour I there gave unwittingly to my friend Mr. Dillwyn. I trust the error, and its correction, will be pardoned.

The minute plant before us looks, to the naked eye, like brick-dust scattered over the crust of the Lichens above mentioned. The colour varies somewhat from an orange red to a browner cast. The stems are scarcely a line in height, erect, forming thick tufts, which under a moderate magnifier look like velvet, but without any silky gloss. Under a microscope of high powers they are found to be alternately branched, roughish or downy, and composed of regular joints of a darker colour than their interstices, of a swelling or somewhat globose form, and each about as broad as it is long. No fruit has been detected.



June 1 1806. Published by Jas Sowerby, London.

CONFERVA bipunctata.

Double-dotted Conferva.

CRYPTOGAMIA Algæ.

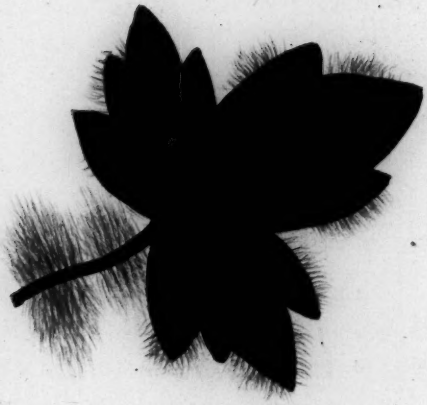
GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

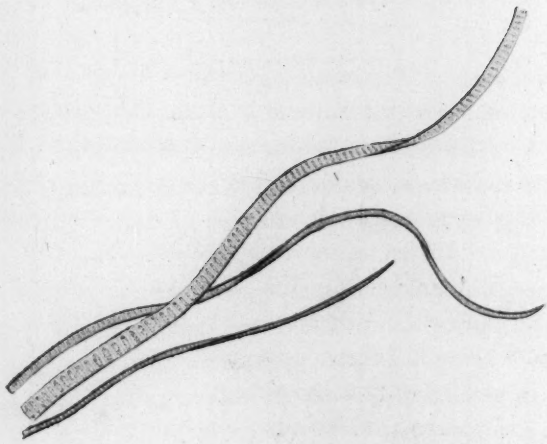
SPEC. CHAR. Green. Filaments unbranched, slippery, cylindrical. Joints rather longer than broad, each double-dotted.

SYN. Conferva bipunctata. *Roth. Catalect. v. 2. 204. Dillw. Conf. t. 2.*

NOT uncommon in stagnant waters. Mr. Turner has several times shown it to us at Yarmouth. These specimens were collected in Tothill fields by Mr. Sowerby in September 1802.

It is found, as Mr. Dillwyn observes, "either floating in thick masses on the surface, or loose and straggling at the bottom of the water." The colour of the whole mass is a more or less yellowish green. The filaments are several inches long, capillary, slender, slippery and rather tender, unbranched, of an equal thickness throughout, scarcely at all contracted at the union of the joints. Each joint is rather longer than broad, pellucid, marked in its central part with two dots or masses of a green substance, which in some stages of growth are confluent. These double dots well characterize the species.





June 1 1806. Published by Jas Sowerby, London.

CONFERVA pectinalis.

Short-jointed Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Green. Filaments brittle, slippery, unbranched, tapering, compressed. Joints three times as broad as they are long, their central part opaque.

SYN. Conferva pectinalis. *Dillw. Conf. t.* 24.
C. bronchialis. *Roth. Catalect. v.* 1. 186.

FOR specimens of this curious *Conferva* we are indebted to Mr. W. Borrer, who found them at Hurst Pierpoint, Sussex, growing on decayed leaves in ditches in the month of March.

It is a very minute species, the stems being not above half an inch long, and from a thousandth to a four hundredth part of an inch in diameter, tapering gradually to a point, and compressed, not cylindrical. The joints are remarkably short, their breadth being full thrice as much as their length. They are pellucid and colourless except in their central part, which when fresh is occupied, as in other species of this tribe, with opaque green matter, in the form of an oblong transverse spot. These spots begin to break, or totally disappear, soon after the plant is taken from the water. Mr. Sowerby observed the situation of this green matter as we have described it, which is analogous to its appearance in other species, but Mr. Dillwyn found it lodged near the transverse partitions of the joints. Dr. Roth's description does not help us to remove this difficulty.

June 1. 1806. Published by Jo.s Sowerby, London.

SCIRPUS Holoschœnus.

Round cluster-headed Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

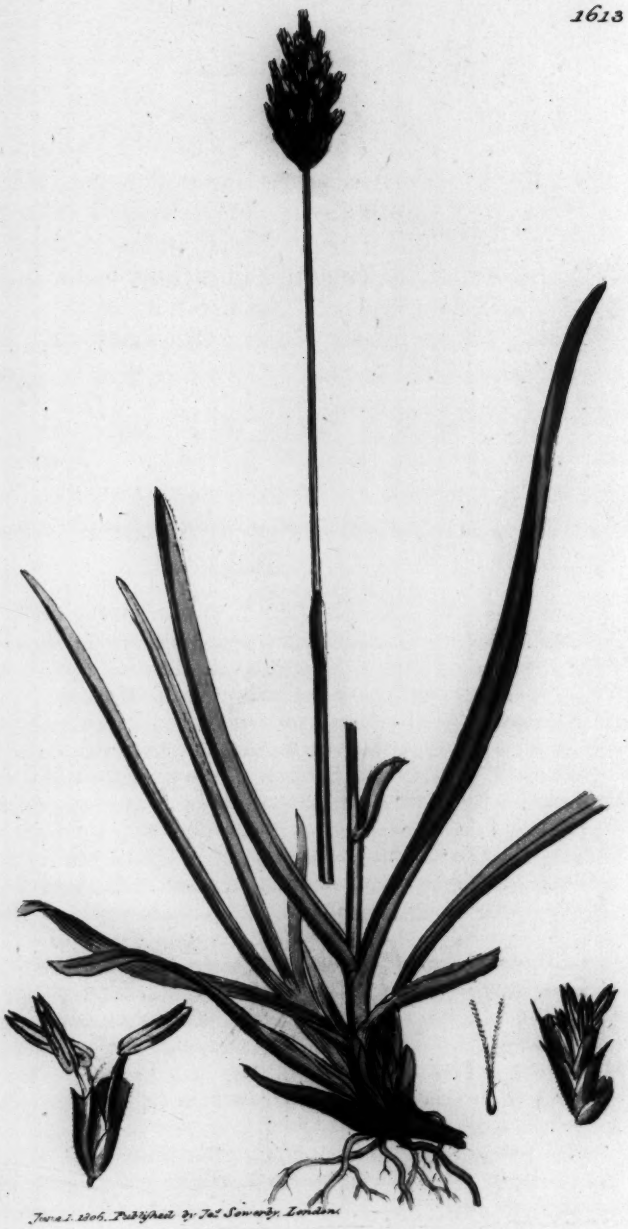
SPEC. CHAR. Stem round, naked. Flowers in round, sessile or stalked, heads. Bractea of two unequal leaves. Leaves channelled.

SYN. Scirpus Holoschœnus. *Linn. Sp. Pl.* 72. *Sm. Fl. Brit.* 53. *Huds.* 19. *With.* 75. *Hull.* 14. *Dicks. Dr. Pl.* 2.

S. maritimus, capitulis rotundioribus glomeratis. *Raii Syn.* 429.

SENT from Braunton Boroughs, a sandy tract on the Devonshire coast, by Dr. Wavell to Mr. Lambert, to whom we are obliged for it. Ray and Dr. Goodenough have observed it in the same place, and Hudson in Somersetshire and Hampshire. The last-named botanist mentions the *Sc. romanus*, which I am convinced is a small variety of this, as growing in marshes near Throgmorton, Worcestershire. No plant varies more as to luxuriance; for I have a Teneriffe specimen with at least 60 heads, gathered by the excellent Masson, who, after disinterestedly devoting his life to the service of botany, has lately finished his career in North America, universally lamented.

S. Holoschœnus is perennial, and flowers late in the autumn. The root forms dense tufts. Stems upright, commonly 2 or 3 feet high, round, smooth, with a membranous sheath at their base. Leaves radical, linear, acute, smooth, marked with a white channel on their upper side. Stem crowned with 2 unequal bracteas exactly like the leaves, and bearing several globular brown heads, either sessile, or on stalks which are sometimes branched. Each head is composed of innumerable spikelets, and those of imbricated, obtuse, carinated, downy glumes. Stamens 3. Stigmas 3. —It is remarkable that botanists in the South of France and in Italy often take this plant, without examination, for *Juncus conglomeratus*. See *Tour on the Continent, v.* 1. 164, 265.



June 1. 1806. Published by Jas Sowerby, London.

SESLERIA cærulea.

Blue Moor-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing about 3 florets. *Cor.* of 2 valves; the inner cloven; the outer (mostly) with 3 teeth. *Styles* united at their base.

SPEC. CHAR. Spike ovate-oblong, imbricated. Bracteas alternate. Outer petals with three teeth.

SYN. Sesleria cærulea. *Scop. Carn. ed.* 2. *v.* 1. 63. *Sm. Fl. Brit.* 94. *With.* 140. *Hull.* 21. *Knapp. t.* 43.

Cynosurus cæruleus. *Linn. Sp. Pl.* 106. *Huds.* 59. *Dicks. H. Sicc. fasc.* 6. 3. *Mart. Rust. t.* 20. *Jacq. Misc. v.* 2. 66. *Ic. Rar. v.* 1. *t.* 21.

Gramen parvum montanum, spicâ crassiore purpuro-cæruleâ brevi. *Raii Syn.* 399.

THIS rare mountain grass grows chiefly in the clefts of calcareous rocks in elevated situations, flowering in the early part of summer. We have received it from different parts of Westmoreland, in which neighbourhood it more frequently occurs than in any other in England, though Mr. Knapp mentions it as common on the Scottish alps. The spike varies in colour, but some of our native ones are as blue as any from abroad.

The root is perennial, tufted, very long. Stem about a span high, simple, without joints, smooth, naked except at the base. Leaves linear, obtuse, recurved, keeled, rough-edged: their sheaths short, tubular, compressed, with a very minute stipula. Spike terminal, solitary, of a shining grey or blue, with solitary, jagged, membranous bracteas at the base of some of the lowermost spikelets. Spikelets mostly in pairs, 2- or 3-flowered. Calyx-valves nearly equal, with short awns. Petals ribbed; the outer with 3 teeth, the middlemost slightly awned; inner with 2 teeth; all the ribs are fringed. Stigmas threadshaped, rough. Styles joined at their lower part.

Dr. Sibthorp found near Constantinople a new species nearly akin to this, but with a white spike, and the outer petals undivided.

July 1, 1806. Published by Jas. Sowerby, London.

JUNCUS acutus.

Great Sharp Sea Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Caps.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

SPEC. CHAR. Stem round, naked. Panicle terminal. General involucrum of two spinous leaves. Capsules roundish, pointed.

SYN. Juncus acutus. *Linn. Sp. Pl.* 463. *Sm. Fl. Brit.* 374. *Huds.* 148. *With.* 346. *Hull.* 75.
J. acutus, capitulis Sorghi. *Raii Syn.* 431. *Bauh. Prod.* 21. *f.* 2.

IF our present Number be deficient in brilliant flowers, it contains perhaps more rare and curious articles than any we have yet published; nor is this *Juncus*, though last, the least valuable among them. Many botanists have not distinguished it from the common *J. maritimus*, *Fl. Brit.*

Our specimen came from Crumlin Burrows in May 1803; so that its flowering season seems earlier than is marked in *Fl. Brit.* We have however gathered the but half ripe capsules in autumn on the north coast of Norfolk, (where the plant is very rare,) so that it is probably long in fructification.

Root perennial, running deep into the sand. Stems 3 or 4 feet high, simple, straight, stiff and very strong. Leaves like the stem in form, but shorter, each ending in a very sharp hard point. Panicle terminal, compound, accompanied by 2 large, but unequal, sharp leaves, and many internal sheathing membranous scales. Flowers clustered. Calyx-leaves ovate, blunt. Capsule large, almost globular, with a small point, brown and shining when ripe, of 3 cells. Seeds numerous, ovate, shining.

The leaves of this plant might well serve Homer's Frogs and Mice for spears; and it is probably the rush he had in view, being common, as Dr. Sibthorp observed, on the shores of Greece.

June 2 1806. Published by Jas. Sowerby, London.

ALISMA Damasonium.

Star-headed Water-Plantain.

HEXANDRIA Polygynia.

GEN. CHAR. *Cal.* of 3 leaves. *Petals* 3. *Capsules* many, aggregate, generally single-seeded.

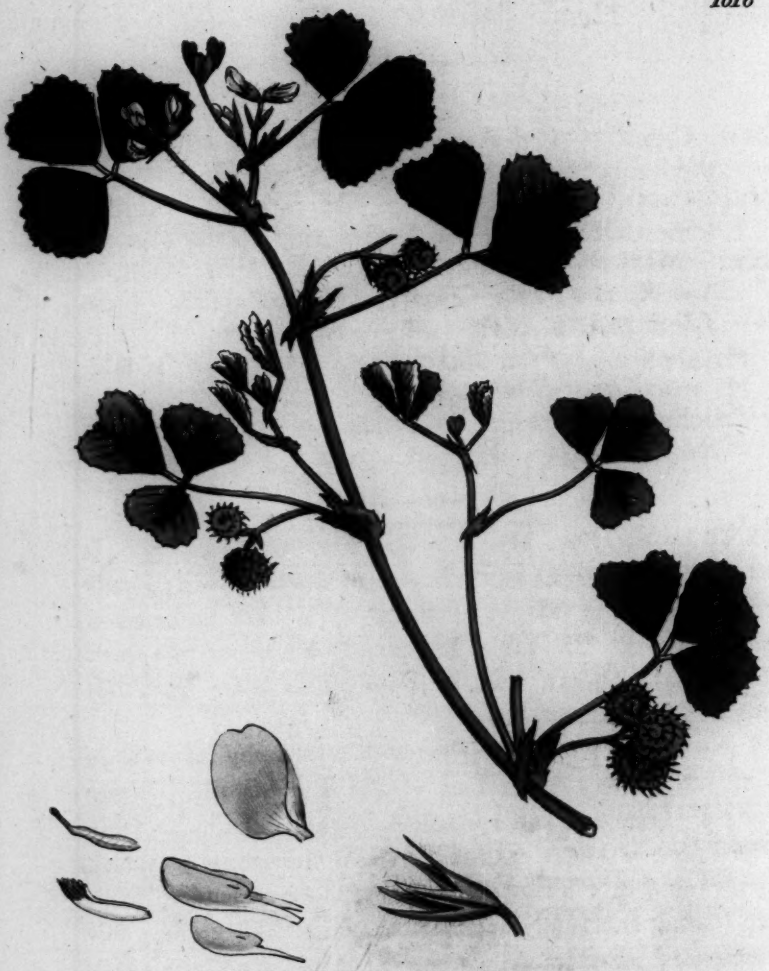
SPEC. CHAR. Leaves oblong; heartshaped at the base. Styles six. Capsules awlshaped.

SYN. Alisma Damasonium. *Linn. Sp. Pl.* 486. *Sm. Fl. Brit.* 401. *Huds.* 159. *With.* 361. *Hull.* 79. *Curt. Lond. fasc.* 5. *t.* 28.
Damasonium stellatum Dalechampii. *Raii Syn.* 272.

GATHERED frequently in Wanstead Park, Essex, by Mr. Sowerby. It grows in watery places on a gravelly soil, and has been observed chiefly within 20 miles of London; yet we learn from the Botanist's Guide that it has also been found at Ellesmere, Shropshire, as well as in Suffolk and Sussex. It is perennial, and flowers in June and July.

Root of many long fibres. Leaves floating, all radical, on round stalks, dilated and bordered with a membrane in their lower part; the leaf itself is of a long elliptical obtuse form, heartshaped at the base, entire, smooth, with a strong midrib, 2 small ribs near the margin, and many transverse veins. Stalks 1 or 2, about a span high, round, simple, bearing 2 or 3 umbels one above another, which give it a whorled appearance. Flowers whitish. Germens but 6, upright, each crowned with a small taper stigma. Capsules 6, spreading in a star, like those of the *Illicium* or Starry Anise, compressed, pointed, each holding 1 or 2 seeds.

I am not afraid of offending my candid friend Jussieu by not adopting his genus *Damasonium*. Linnæus observes "*rarò observatur genus, in quâ pars aliqua fructificationis non aberrat.*" *Phil. Bot. sect.* 170. This appears to be the case with the seed-vessels of *Alisma* with respect to form, number and direction. *Fumaria* is another instance of the same aberration.



July 1.1806. Published by Ja.s Sowerby, London.

MEDICAGO polymorpha.

Heart Medick, or Claver.

DIADELPHIA Decandria.

GEN. CHAR. *Pod* compressed, spiral, forcing back the keel of the corolla from the standard.

SPEC. CHAR. Pods coiled up like a snail. Stipulas somewhat toothed. Stem spreading on the ground.

SYN. Medicago polymorpha. *Linn. Sp. Pl.* 1098, *η*. *Sm. Fl. Brit.* 797. *Huds.* 331. *Relh.* 292. *Curt. Lond. fasc.* 3. *t.* 47. *Mart. Rust. t.* 76.

M. arabica. *With.* 660. *Sym.* 167. *Hull.* 165.

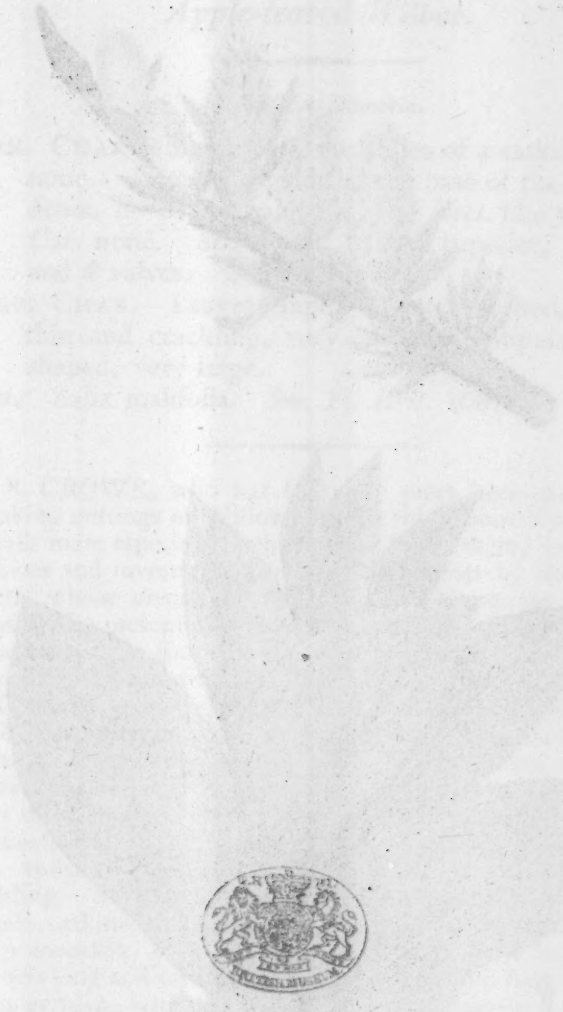
M. maculata. *Sibth.* 232.

Trifolium cochleatum, folio cordato maculato. *Raii Syn.* 333. *n.* 1: also *n.* 2, 3 and 5, following.

SENT by the Rev. Mr. Hemsted from near Bedford. It occurs in several of the southern parts of England, on a gravelly soil, flowering in May and June. We have gathered it plentifully under the wall of Richmond gardens next the river. The Rev. Dr. Beeke finds it abundant in many maritime parishes of Devonshire.

The root is annual, furnished with little fleshy knobs as in *Vicia lathyroides*, and others of the same family. Stems prostrate, branched and spreading, angular. Stipulas more or less deeply cut. Leaflets inversely heartshaped, ribbed, sharply toothed. Flowerstalks axillary, solitary, slender, hairy, each bearing commonly 3 yellow flowers. The germen becomes spiral after impregnation, and is coiled up into a ball, like a snail's shell, the outer edge of each circumvolution being beset with little prominent teeth.

In this variety, which is the most common, the leaflets are each marked with a black spot: in some others they are more silky, and the spines on the fruit also vary in form. Experiments are requisite to prove whether these supposed varieties are distinct species or not.



July 1. 1806. Published by Jas Sowerby

SALIX malifolia.

Apple-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptic-oblong, toothed, waved, thin and crackling, very smooth. Stipulas heart-shaped, very large.

SYN. Salix malifolia. *Sm. Fl. Brit.* 1053.

MR. CROWE, who has for many years been in the habit of taking cuttings of Willows, in his rides about Norfolk and Suffolk more especially, wherever he found them, in order to cultivate and investigate them at leisure, has by this means several whose precise places of growth he cannot now recollect. The present plant is so circumstanced; but Mr. Crowe is persuaded he found it wild in some part of Norfolk, and from the habit one would suppose it an upland species.

It forms a spreading shrub 3 or 4 feet high, blossoming in April, and when in leaf is very remarkable for having somewhat of the habit of an apple-tree. The twigs are crooked, brittle, of no use, hairy when young, blackish. Leaves on short thick stalks, 2 inches long, smooth, veiny, obovate or elliptical, pointed, their margin waved and closely toothed; their under side glaucous; their substance thin, harsh and crackling. Stipulas large, recurved, heartshaped, toothed. Female catkins an inch long, erect, thick, obtuse; their scales roundish, entire, clothed with long dense soft hairs. Germen long and tapering, smooth. Style not half so long as the germen, with a short simply divided stigma.

That this *Salix* is new to Britain there can be no doubt. There is some difficulty in distinguishing it from the exotic *S. hastata*, but the latter is a considerable tree, with a more erect habit, broader less undulated leaves, and rather larger catkins. They seem to differ nearly as *S. caprea* and *aquatica* do from each other, but we must leave the matter to future decision.

July 1806. Published by Ja.s Sowerby London.

POPULUS alba.

Great White Poplar, or Abele.

DIOECIA Octandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin, torn. *Cor.* turbinate, oblique, entire. *Stam.* 8 or more. Female, *Cal.* and *Cor.* like the male. *Stigmas* 4 or 8. *Caps.* superior, with 2 cells and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves roundish, somewhat heart-shaped, lobed and toothed; downy and very white beneath. Female catkins ovate. Stigmas four.

SYN. Populus alba. *Linn. Sp. Pl.* 1463. *Sm. Fl. Brit.* 1079. *Huds.* 433. *With.* 375. *Hull.* 221. *Relh.* 390. *Sibth.* 126. *Abbot.* 215. *Lightf.* 616. *Raii Syn.* 446. *Ehrh. Arb.* 120.
P. major. *Mill. Dict. ed.* 8. *n.* 4.

NOT uncommon in rather moist woods and hedges, or even in mountainous places at some distance from water. The catkins are produced in March, the leaves fully expanded in May or June.

Root creeping, throwing up abundance of suckers. Stem forming a large tree, with a smooth bark, and horizontal spreading branches. Leaves alternate, on longish downy stalks, roundish, bluntish, heartshaped at the base, more or less deeply cut into rather acute lobes, and variously toothed; dark-green, smooth and veiny above, thickly clothed with snow-white cottony down beneath, especially in mountainous or open places. On young and luxuriant branches the leaves are almost palmate. Stipulas on the young branches, linear-lanceolate, toothed. Male catkins cylindrical, with palmate, jagged, hairy scales. Antheras violet-coloured, about 8 or 12, sometimes 20, in each flower. Female catkins ovate, about an inch long, with rather smaller scales than the male. Germen embraced by the corolla. Stigmas 4, linear, all equally spreading, pale yellowish green.

The wood is white, soft, but tough and of a close grain, yet chiefly used for coarse purposes.

July 1806. Published by Jas Sowerby, London.

POPULUS canescens.

Common White, or Grey, Poplar.

DIOECIA Octandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin, torn. *Cor.* turbinate, oblique, entire. *Stam.* 8 or more. Female, *Cal.* and *Cor.* like the male. *Stigmas* 4 or 8. *Caps.* superior, with 2 cells and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves roundish, deeply waved, toothed; grey and downy beneath. Female catkins cylindrical. Stigmas eight.

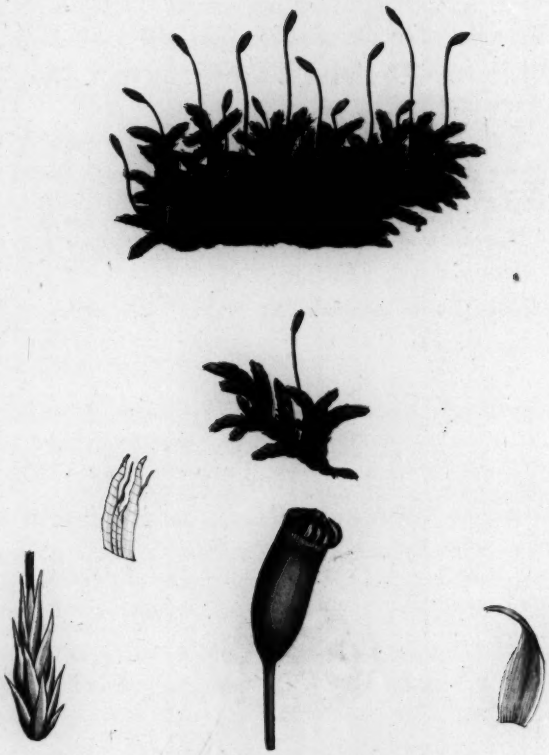
SYN. Populus canescens. *Sm. Fl. Brit.* 1080.
P. alba. *Mill. Dict. ed.* 8. *n.* 1.
P. alba, foliis minoribus. *Raii Syn.* 446.

To the characters of this species by which it is distinguished from *P. alba* in the *Fl. Brit.* we are now enabled to add the most decisive mark of the 8 stigmas, and we would therefore omit the synonym of Miller's *Illustr. t.* 90.

It is frequently found wild in Norfolk, as on Wells heath, and other places near Holkham, according to Mr. Crowe, growing vigorously either in wet turfy marshes, or in light dry loam on exposed and elevated spots. It creeps full as much as the *alba*, and grows to a tall handsome tree, with more upright and compact branches. The grey silvery hue of the trunk is very beautiful. Mr. Crowe observes that it is of slower growth than the *alba*, the wood much firmer and perhaps more valuable than that of any other of our Poplars, though but little used. Mr. Crowe never saw but one tree cut, which made a floor superior to the best Norway Fir. It is certainly a tree of great profit and ornament, and highly worthy of cultivation.

It blossoms in March, perfecting its leaves in May or June, which are much less white, and less deeply or acutely lobed, than those of *P. alba*. The female catkins are also longer, their scales more cut and hairy, and the stigmas 8, spreading in 2 opposite directions.

BRITISH MUSEUM



July 1.1806. Published by Jas Sowerby, London.

HYPNUM nigro-viride.

Dark-green Silky Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem procumbent, pinnated. Leaves ovate, pointed, concave, ribless, slightly curved to one side. Lid conical, pointed.

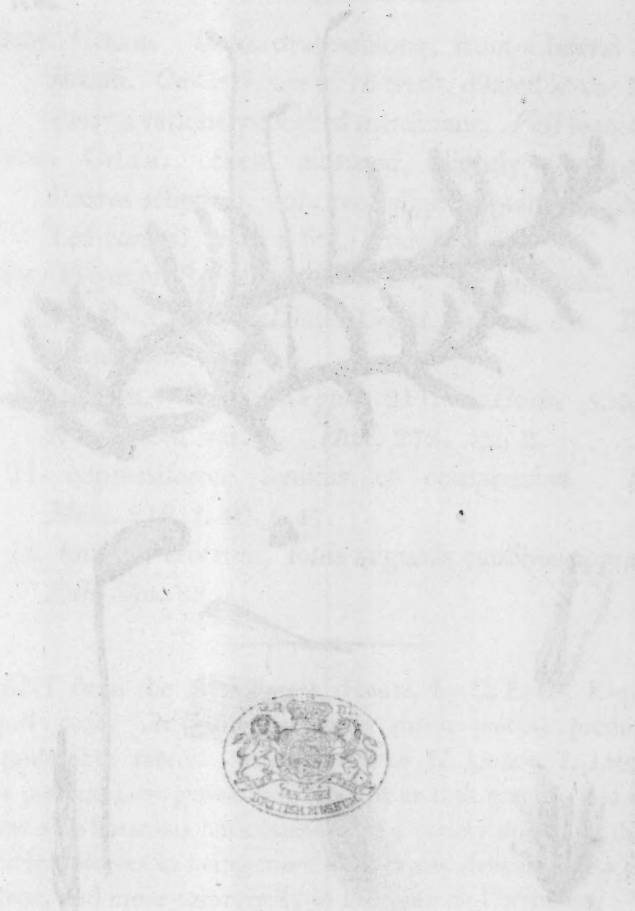
SYN. Hypnum nigro-viride. *Dicks. Crypt. fasc.* 4. 18. *Sm. Fl. Brit.* 1285. *Turn. Musc. Hib.* 141.

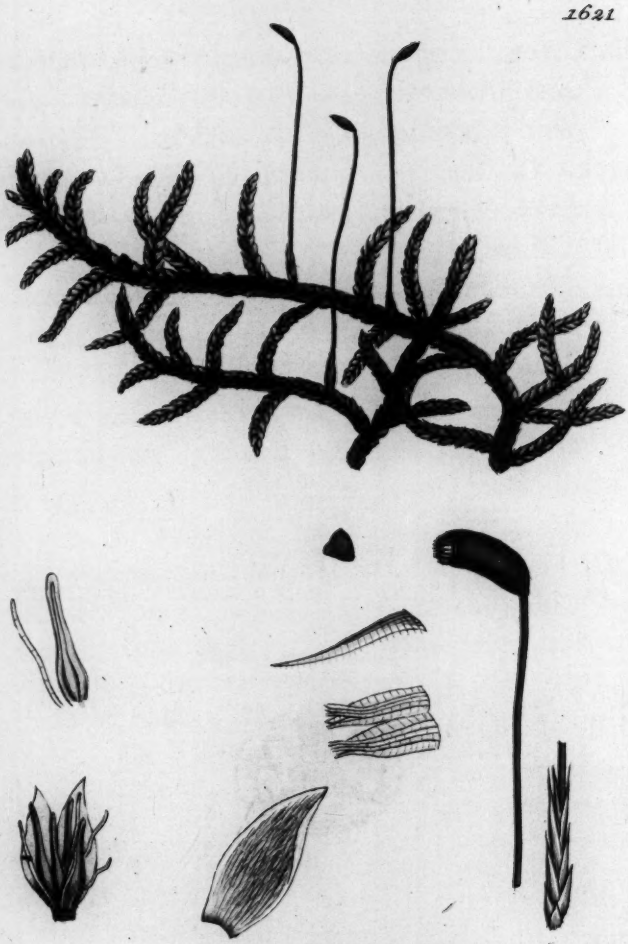
H. myosuroides δ. *Huds.* 508. var. 2. *With.* 865. *Hull.* 274.

H. myosuroides sericeum tenuius, capsulis erectis. *Dill. Musc.* 318. *t.* 41. *f.* 53.

FOR the specimen here represented we are obliged to Charles Lyell, Esq., who found it in the New Forest, Hants, in March last. The species is not unfrequently to be met with on rocks, old walls, or on the ground in shady places.

The stems are an inch or two in length, creeping, throwing up short simple branches curved at their ends. The leaves are very closely imbricated every way, but all more or less curved to one side, ovate, concave, entire, without any nerve; when young they are of a bright shining green; when old, of a dark rusty or yellowish brown. Sheath of many pale lanceolate leaves. Fruit-stalk an inch long, upright, red, smooth. Capsule erect, cylindrical inclining to ovate, smooth, reddish, a little curved by age, but not drooping. Lid conical.





July 1 1816. Published by Jas Sowerby, London.

HYPNUM Schreberi.

Schreberian Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem pinnated, slightly compressed. Leaves elliptical, concave, slightly pointed, ribless. Lid conical, with a little straight point.

SYN. Hypnum Schreberi. *Willden. Berolin.* 325. *Sm. Fl. Brit.* 1315. *Dicks. Crypt. fasc.* 4. 18. *Turn. Musc. Hib.* 176.

H. purum. *Ehrh. Crypt.* 311. *Huds.* 504, β. *With.* 863, var. 2. *Hull.* 273, var. 2.

H. cupressiforme tenuius et compressius. *Dill. Musc.* 312. *t.* 40. *f.* 47.

H. longum erectum, foliis angustis caulibus appressis. *Raii Syn.* 83.

SENT from the New Forest, Hants, by C. Lyell, Esq., in April 1806. It grows in shady moist places, producing capsules but rarely. Being very like *H. purum*, *t.* 1599, it has perhaps been generally passed by as that species, and even some able botanists have esteemed it a variety only. It differs clearly however in being more slender and delicate, of a paler colour, and more compressed in the stem and branches. The leaves are more loosely imbricated, narrower, being of an elliptic-lanceolate figure, bluntish with more or less of a small point, not so much inflated, and quite destitute of a rib even at the base. The lid of the capsule moreover is shorter, with a small straight, not curved, point.

July 1.1821 Published by Jas. Sowerby London.

HYPNUM triquetrum.

Great Triangular Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem ascending, somewhat pinnated. Leaves triangular, pointed, striated, spreading in every direction. Lid conical.

SYN. Hypnum triquetrum. *Linn. Sp. Pl.* 1589. *Sm. Fl. Brit.* 1325. *Hedw. Sp. Musc.* 256. *Huds.* 496. *With.* 850. *Hull.* 270. *Relh.* 433. *Sibth.* 296. *Abbot.* 246. *Dicks. H. Sicc. fasc.* 16. 21. *Turn. Musc. Hib.* 186.

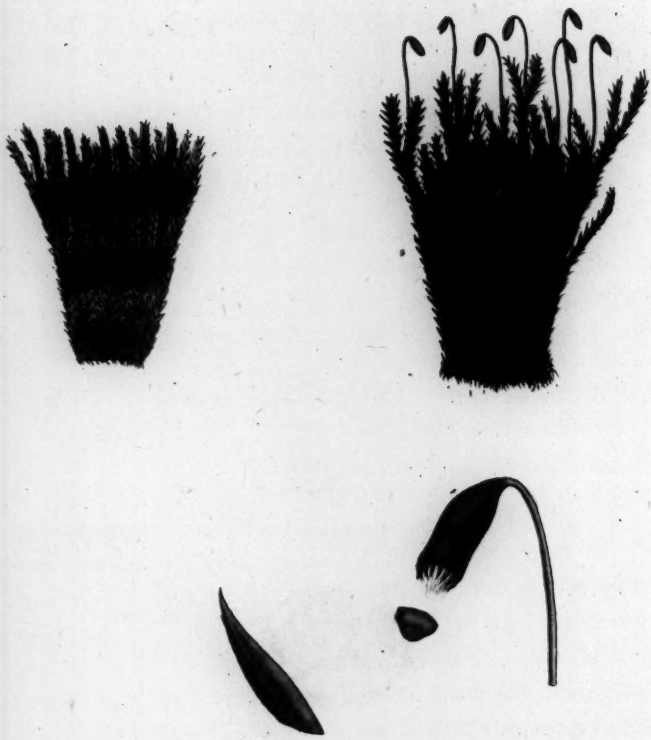
H. vulgare triangulum, maximum et pallidum. *Dill. Musc.* 293. *t.* 38. *f.* 28.

H. repens, triangularibus majoribus et pallidioribus foliis. *Raii Syn.* 80.

VERY common in woods and on heaths, bearing fruit in the winter and early spring. It is readily known from all our other species by its great size.

The stems are nearly erect, often a foot long, stiff and tough, red when stripped, much branched in a somewhat pinnate manner, leafy, their branches often tapering and curved downwards at the points. Leaves pale, rather shining green, crowded, spreading horizontally every way, flat, of a triangular shape with a point, longitudinally furrowed and obscurely ribbed, minutely serrated. Sheath of many taper-pointed recurved leaves. Fruit-stalks about 2 inches long, red, smooth and shining. Capsule drooping, ovate, short, brown, when old sometimes irregularly furrowed or wrinkled. Lid conical, short.

This moss is one of the most useful for packing, being, whether in a dry or wet state, peculiarly elastic and light.



July 1.1806. Published by Jas. Sowerby, London.

BRYUM alpinum.

Red Alpine Thread-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Outer fringe* of 16 teeth, broad at the base: *inner* a toothed membrane. *Flowers* terminal. *Capsule* ovate-oblong, smooth. *Veil* smooth.

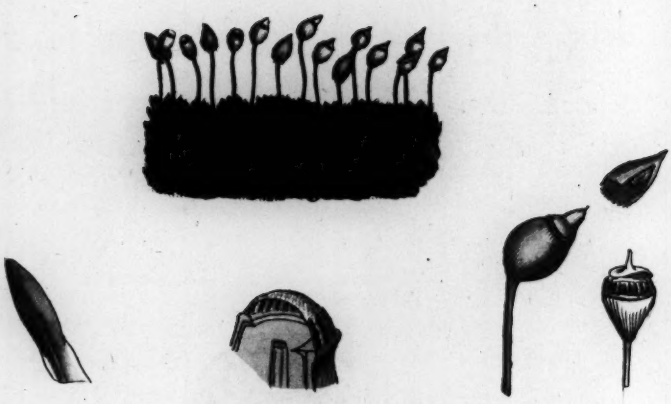
SPEC. CHAR. Stem branched, erect. Leaves ovato-lanceolate, acute, imbricated. Capsule oblong, pendulous.

SYN. Bryum alpinum. *Linn. Mant.* 309. *Sm. Fl. Brit.* 1353. *Huds.* 490. *With.* 841. *Hull.* 254. *Lightf.* 738. *Turn. Musc. Hib.* 125.

B. hypnoides pendulum sericeum, comâ insigni atro-rubente. *Dill. Musc.* 394. *t.* 50. *f.* 64.

NOT unfrequent on the highest alpine rocks of Britain, where it bears fruit in the early part of summer, and is readily known by its beautiful shining hue variegated with green and red. In wet situations, and by time, the leaves, as well as other parts, assume a dark and blackish colour.

The stems are branched, and form dense tufts of various heights. Leaves closely imbricated every way, green, purple or red, with a silky gloss, ovato-lanceolate, acute, entire, with a strong rib, often more red than the rest of the leaf. When dry they are closely pressed to the stem. Fruit-stalks about an inch long, solitary, straight, red, rising above the branch. Capsule more or less pendulous, when young obovate, then cylindrical or ovate, red or brown. Lid convex with a little blunt point, reddish. Fringe pale or reddish.



July 1. 1806. Published by Jas. Sowerby, London.

POLYTRICHUM subrotundum.

Dwarf Round-headed Hair-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Outer fringe* of 32 or 64 short incurved teeth: *inner* a flat undivided membrane. *Veil* generally double: the *outer* hairy.

SPEC. CHAR. Leaves lanceolate, obtuse, entire, rigid. Capsule turbinate, nearly upright. Stem very short.

SYN. Polytrichum subrotundum. *Huds. ed.* 1. 400. *Sm. Fl. Brit.* 1378. *Menz. Tr. of Linn. Soc. v.* 4. 68. *Hull.* 247. *Turn. Musc. Hib.* 89.

P. pumilum. *Swartz. Musc. Suec.* 77 and 108. *t.* 9. *f.* 19. *Hedw. Sp. Musc.* 97. *t.* 21. *f.* 7—9.

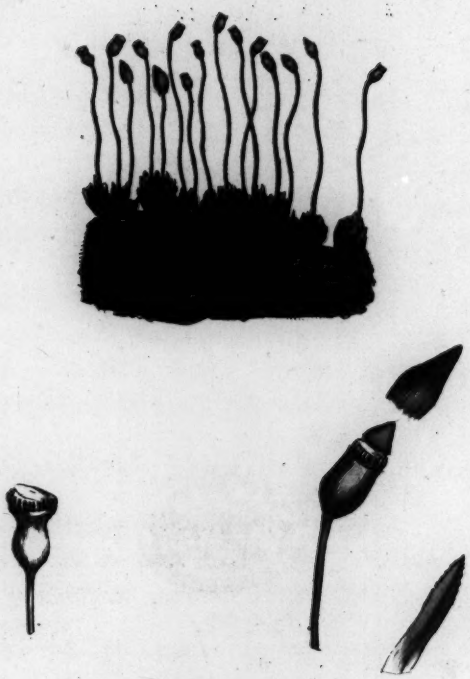
P. nanum, capsulis subrotundis galeritis, aloes folio non serrato. *Dill. Musc.* 428. *t.* 55. *f.* 6. A—F.

COMMON on heaths and sandy or loamy banks, bearing its capsules in the winter or early spring.

The root consists of fine dense woolly fibres, and is presumed to be annual. Stem scarcely any. Leaves numerous, of a dark dull green, rigid, thickish, oblong or lanceolate, obtuse, beardless, channelled, for the most part quite entire, the lowermost only being sometimes toothed at the summit. Fruit-stalk solitary, not an inch high, nearly straight, reddish brown, thickened at the top. Capsule almost erect, roundish when young, short and turbinate, with a very wide mouth; when old, a little oblique. Fringe of 32 slender teeth, soon turning black. Lid convex, red-edged, with a curved beak, which is conical when young, as in some other species. Veil double, the outermost yellowish brown.

Mr. J. D. Sowerby has observed that what is above called the inner fringe is more properly the membranous base of the lid, often attached to the column by its centre; and that there seems in this, as well as in *P. undulatum*, *t.* 1220, a real membranous *peristomium* within the teeth. This gives quite a new idea of the generic character.

BRITISH MUSEUM



July 1.1806. Published by Jas. Sowerby London.

POLYTRICHUM nanum.

Slender Round-headed Hair-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Outer fringe* of 32 or 64 short incurved teeth: *inner* a flat undivided membrane. *Veil* generally double: the *outer* hairy.

SPEC. CHAR. Leaves linear, obtuse, slightly serrated. Capsule turbinate, drooping. Fruit-stalk zigzag. Stem very short.

SYN. Polytrichum nanum. *Hedw. Sp. Musc.* 95. *Crypt. v.* 1. 35. *t.* 13. *Menz. Tr. of Linn. Soc. v.* 4. 69. *Sm. Fl. Brit.* 1379. *Huds.* 470, β. *Hull.* 247. *Relh.* 416. *Sibth.* 306. *Turn. Musc. Hib.* 89. *Ehrh. Crypt.* 54.

P. subrotundum. *Curt. Lond. fasc.* 2. *t.* 68. *With.* 796. *Abbot.* 232.

P. nanum, capsulis subrotundis galeritis, aloes folio non serrato. *Dill. Musc.* 428. *t.* 55. *f.* 6. G—L.

P. minus, capsulis subrotundis, calyptrâ quasi lacerâ coronatis. *Raii Syn.* 91.

Mnium polytrichoides α. *Linn. Sp. Pl.* 1576.

FREQUENT in dry heathy places, flowering in the early spring.

Root supposed to be annual. Whole plant much like *P. subrotundum*, except that it is somewhat larger, the leaves narrower, for the most part serrated, though obscurely, and less rigid than in that species. The fruit-stalk is nearly an inch and half high, slender, wavy or zigzag, twisted when dry. Capsule more or less drooping, rather more oblong than in the last-mentioned species. Fringe as in that, with a similar internal membrane.

July 1 1806. Published by Jas Sowerby London.

ULVA defracta.

Broken Laver.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* solitary, scattered throughout its substance, under the cuticle.

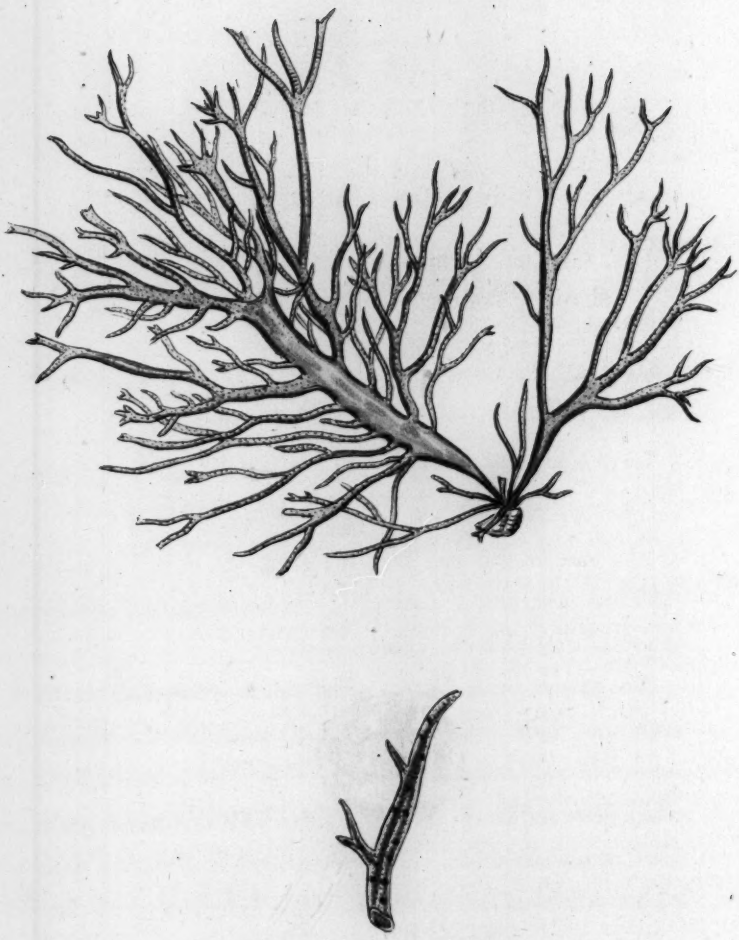
SPEC. CHAR. Frond thread-shaped, unbranched, elastic, viscid, pellucid, with pale red dots.

SYN. Ulva defracta. *With. v.* 4. 124. *t.* 18. *Hull.* 313.

FOUND on the eastern coast of Scotland by our liberal correspondent James Brodie, Esq.

We can add little to the description in Withering from that excellent observer Colonel Velley, who discovered this species on the beach at Weymouth at low water, and whose melancholy fate we have now to deplore. Our specimens grew entangled upon *Fuci* and *Confervæ*, twisted together like worms, and are simple, cylindrical, bluntish, very viscid when fresh, adhering to each other when dry. They are very pale and pellucid, sprinkled all over with blush-coloured dots, which seem to contain the seeds, and which Colonel Velley found to turn afterwards to an orange hue.

The fronds vary from 2 or 3 to 12 inches in length, and are about 1 eighth of an inch in diameter.



Aug. 1.1806. Published by Jas. Sowerby London.

ULVA rubra.
Red Laver.

CRYPTOGAMIA Algæ.

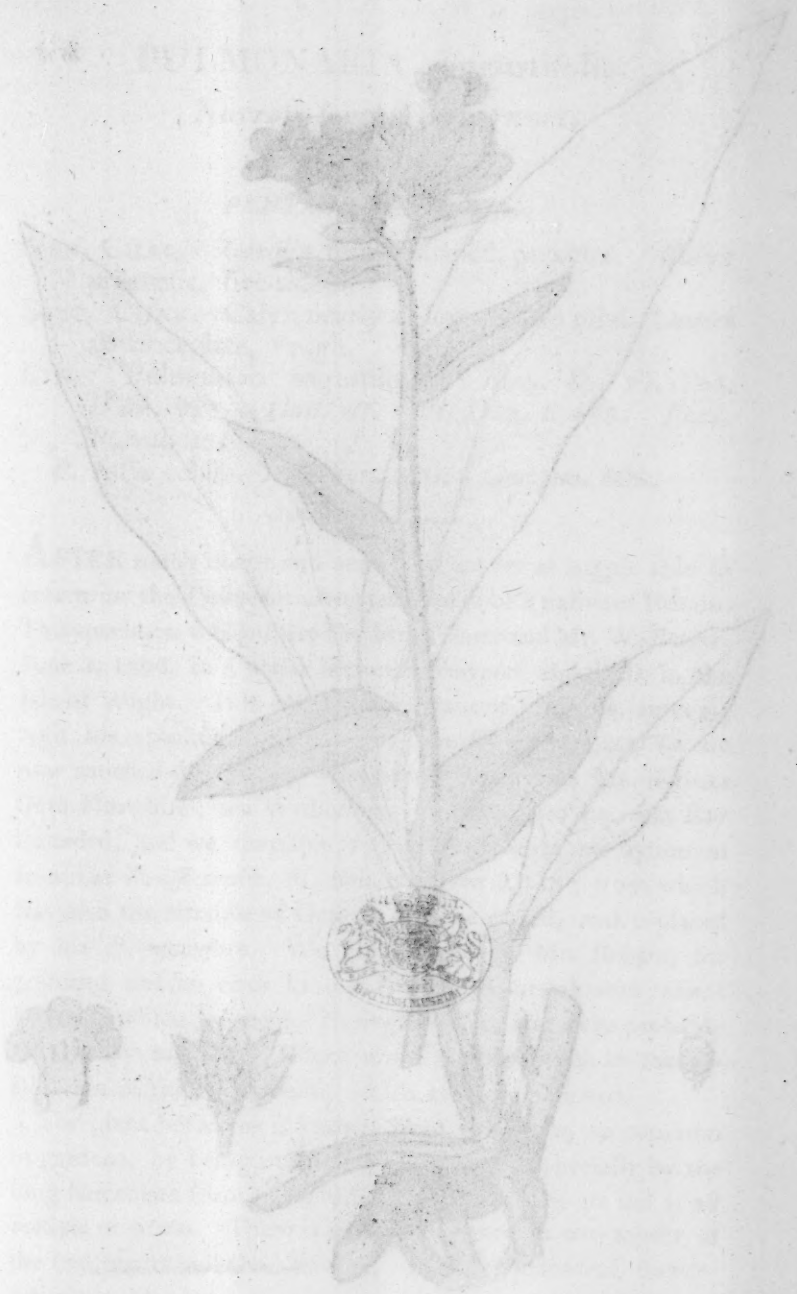
GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* solitary, scattered throughout its substance, under the cuticle.

SPEC. CHAR. Frond gelatinous, much branched, thread-shaped, somewhat flattened, red.

SYN. Ulva rubra. *Huds.* 571. *With. v.* 4. 126. *Hull.* 312.

OUR figure of this rare *Ulva* is taken from a fine specimen in the possession of Mr. Edward Forster, which was bought at the sale of the late Mr. Hudson, the only original author who has described the species. It was found on stones in the sea at Christ-church, Hampshire.

The fronds grow from a small callous root, and are from an inch and half to 3 inches high, taper at the base, much branched and dilated upwards, solid, cylindrical, but somewhat flattened in the broadest parts. The branches are mostly alternate, elongated, very irregularly subdivided; their segments rather acute than otherwise. The colour of the whole is a tawny or dullish red, the substance gelatinous. The seeds are scattered over the whole in round dark-coloured dots.



Engraved, Published by Jas Sowerby Lond.

PULMONARIA angustifolia.

Narrow-leaved Lungwort.

PENTANDRIA Monogynia.

GEN. CHAR. *Corolla* funnel-shaped, pervious. *Calyx* prismatic, five-sided.

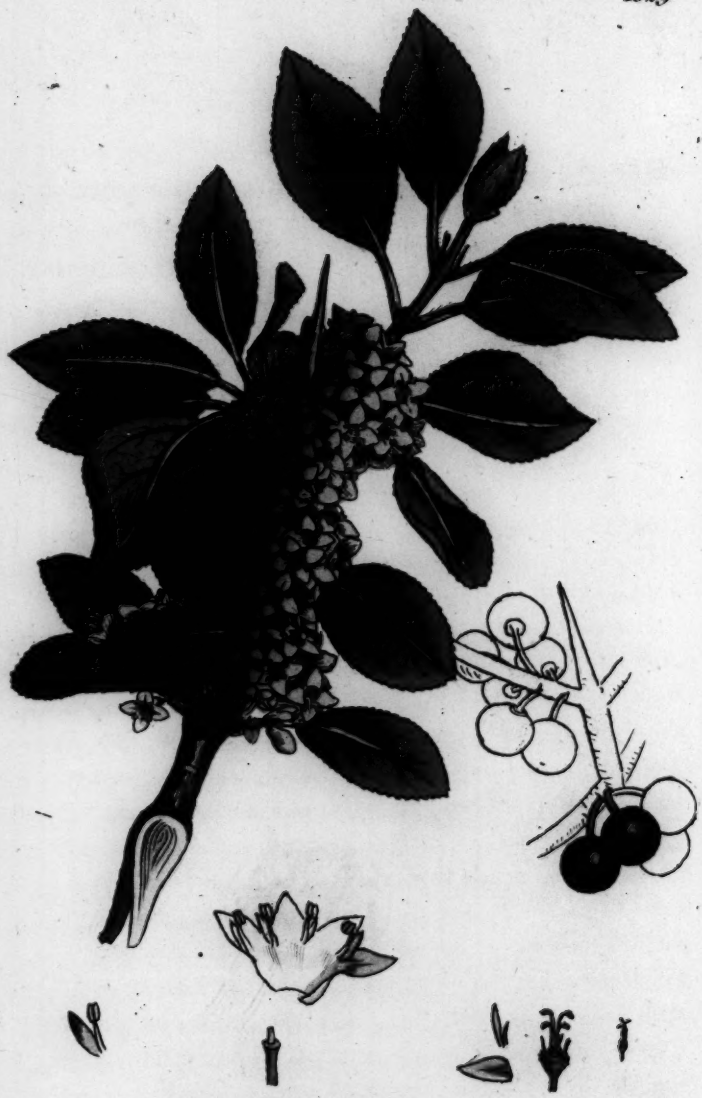
SPEC. CHAR. Calyx nearly as long as the tube. Leaves all lanceolate, rough.

SYN. Pulmonaria angustifolia. *Linn. Sp. Pl.* 194. *With.* 228. *Hull.* 47. *Fl. Dan. t.* 483. *Park. Parad.* 251. *f.* 2.

P. foliis echii. *Raii Syn.* 226. *Ger. em.* 808.

AFTER much doubt and confusion we are at length able to determine the *Pulmonaria angustifolia* to be a native of Britain. This specimen was gathered by Mr. Turner and Mr. W. Borrer, June 3, 1806, in a wood between Newport and Ride in the Isle of Wight. It is certainly the plant of Linnæus, agreeing with his specimens from Scara (see *Fl. Suec.*), and we are now satisfied of its being what Mr. Waring sent Mr. Robson from Flintshire; see Withering. It must also be what Ray intended, and we therefore venture to remove his synonym from the *P. officinalis*, *Fl. Brit.* 217, our *t.* 118; from which last also the citation of Gerarde is to be erased, and replaced by his *P. maculosa*. We are obliged to Mr. Robson for pointing out an error in our *t.* 118, the uncoloured radical leaves of which belong to *P. angustifolia*, and were probably sent us by mistake. Hence arose our doubts as to the distinction of the two species, which are now removed.

The plant before us is known from the other, so common in gardens, by being much less spotted, and especially by the long lanceolate form of its radical leaves, which are not at all cordate or ovate. There is also a difference in the aspect of the two plants and their flowers. Both are perennial, flowering about May.



Aug.1.1808. Published by Jas. Sowerby London.

RHAMNUS catharticus.

Buckthorn.

PENTANDRIA Monogynia.

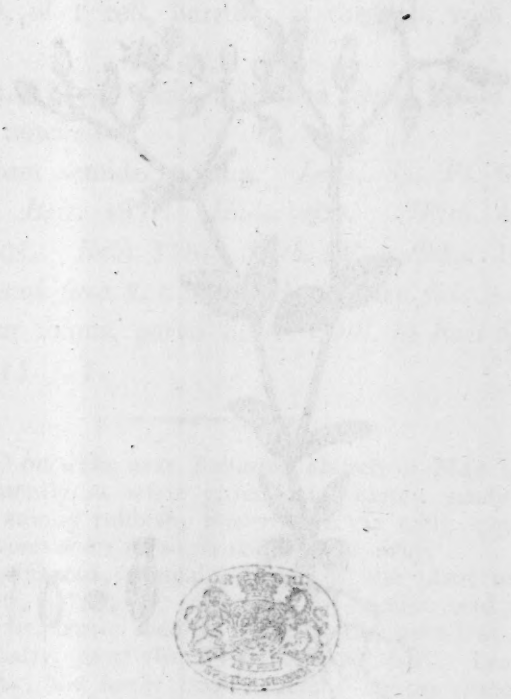
GEN. CHAR. *Cal.* tubular. *Petals* 5, opposite to the stamina. *Berry* superior, with few seeds.

SPEC. CHAR. Spines terminal. Flowers four-cleft, dioecious. Leaves ovate. Stem upright. Seeds four.

SYN. Rhamnus catharticus. *Linn. Sp. Pl.* 279. *Sm. Fl. Brit.* 261. *Huds.* 98. *With.* 256. *Hull.* 53. *Relh.* 94. *Sibth.* 82. *Abbot.* 52. *Woodv. Med. Bot. t.* 114. *Fl. Dan. t.* 850. *Raii Syn.* 466.

NOT rare in hedges and bushy places, flowering in May or June, and ripening its berries about Michaelmas.

It forms a hard, rigid, spreading shrub, with alternate, or often nearly opposite, branches, each tipped with a strong thorn. First leaves in clusters from the flowering buds, but those on the fresh branches are opposite; all grow on downy footstalks, and are ovate, serrated, strongly veined, downy when young, deciduous. Stipulæ linear, soon falling off. Flowers on short, simple, clustered stalks, yellowish green. Calyx-lobes, petals and stamina 4. Lobes of the stigma 4, sometimes but 3, and the seeds agree with them in number. In flowers with perfect stamina the petals are elliptical, and the germen for the most part obsolete and abortive; in those with a fertile germen the petals are linear, and the stamina scarcely more than minute bristles. Sometimes, however, both organs are perfect in the same flower. The berries are globular, black, nauseous, well known for their purgative quality, which is not of the mildest or most salubrious kind. In an unripe state they dye yellow, but are esteemed far inferior to those of *R. infectorius* brought from the Levant.



Aug.st 1.1808. Published by Ja.s Sowerby London.

CERASTIUM semidecandrum.

Little Mouse-ear Chickweed.

DECANDRIA Pentagynia.

GEN. CHAR. *Cal.* 5-leaved. *Petals* cloven. *Caps.* superior, of 1 cell, bursting at the top, with 10 teeth.

SPEC. CHAR. Hairy, viscid. Stamina five. Petals but slightly notched.

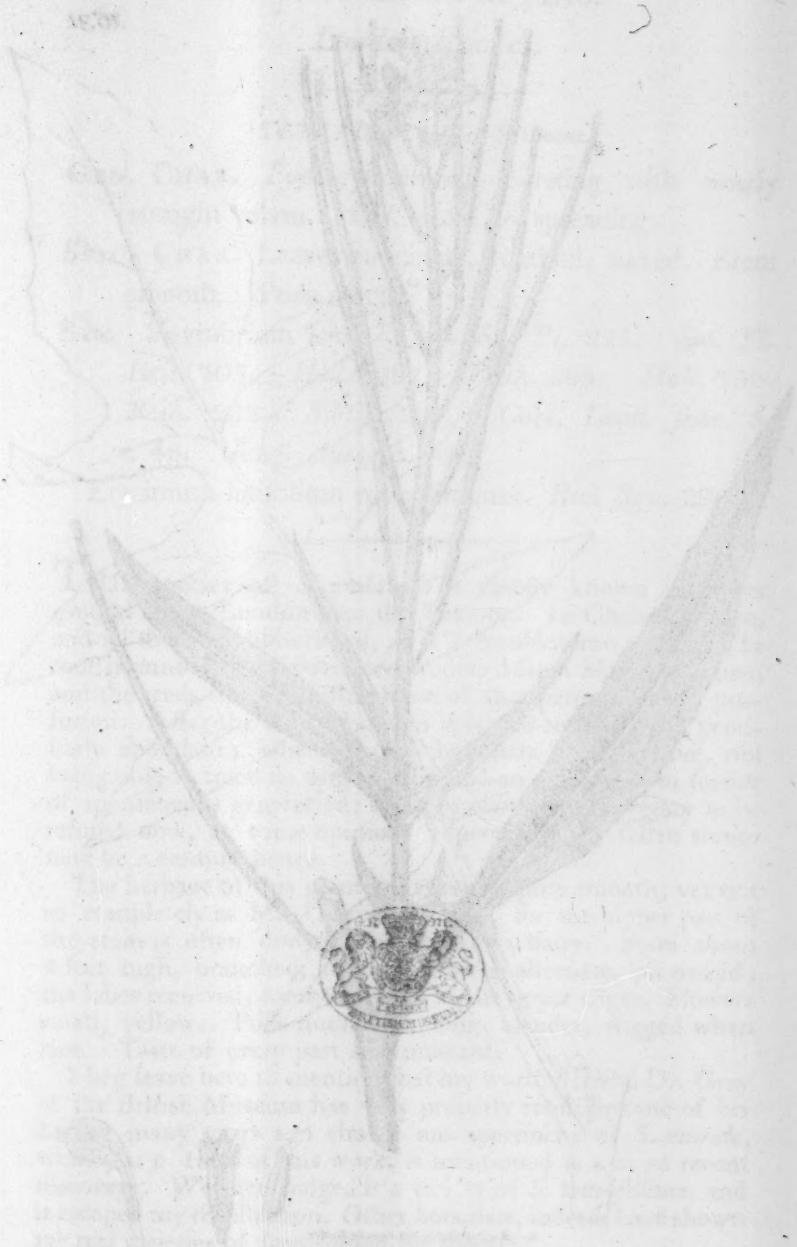
SYN. Cerastium semidecandrum. *Linn. Sp. Pl.* 627. *Sm. Fl. Brit.* 497. *Huds.* 200. *With.* 435. *Hull.* 101. *Relh.* 178. *Sibth.* 147. *Abbot.* 101. *Curt. Lond. fasc.* 2. *t.* 33. *Dicks. H. Sicc. fasc.* 8. 11.

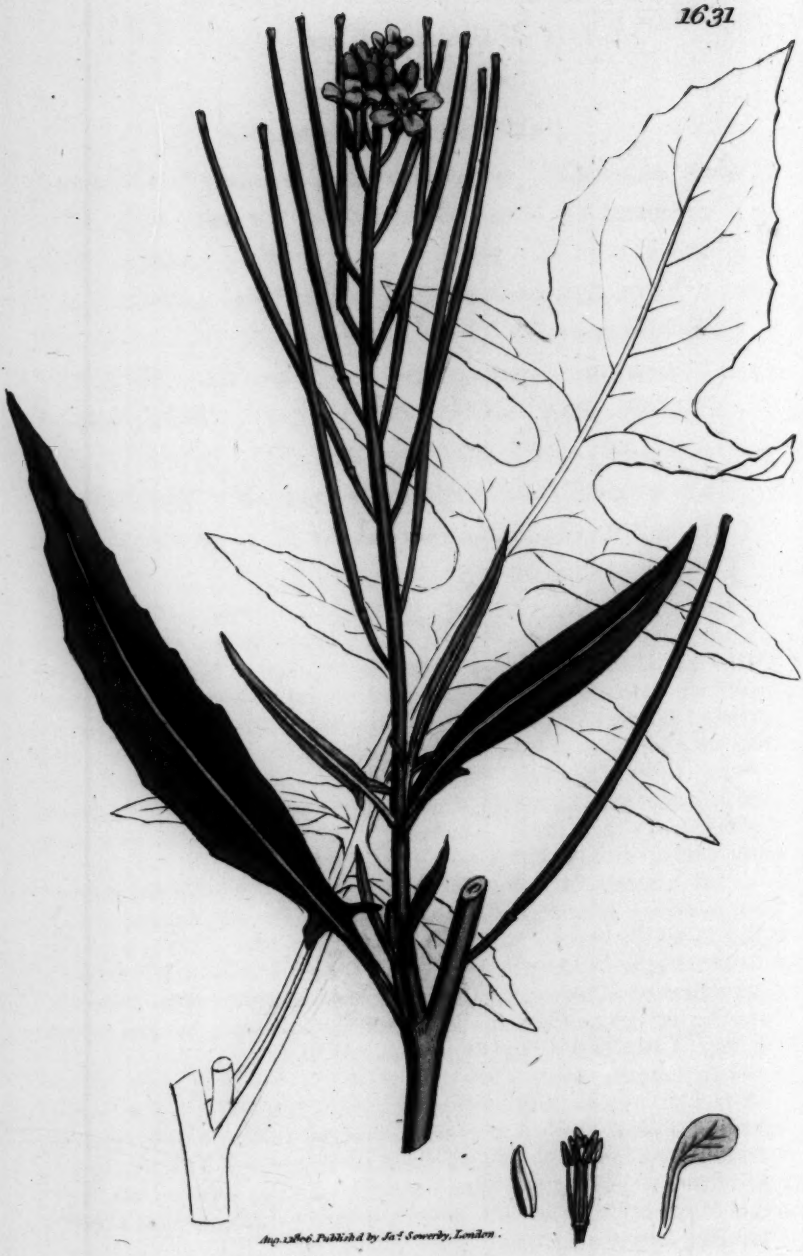
C. hirsutum minus, parvo flore. *Dill. in Raii Syn.* 348. *t.* 15. *f.* 1.

GATHERED on walls near Battersea church in May last. It occurs frequently in waste ground and barren sandy or gravelly spots among rubbish, flowering in the early spring, after which it soon sows its seeds and withers away.

Root small, fibrous, annual. Habit of the plant most like *C. viscosum*, *t.* 790, but every part is smaller, and the herbage more frequently reddish. The stems spread at the base, and are hairy, most viscid in the upper part. Leaves ovate or oblong, the lower ones generally almost smooth. Flower-stalks longer than the calyx, bent back after flowering, but finally erect. Calyx-leaves with a conspicuous white dilated margin. Petals generally shorter than the calyx, slightly notched at the tip, sometimes cut on the side. Stamina rarely more than 5. Capsule about twice as long as the calyx, somewhat curved. Seeds of a tawny brown, granulated, compressed.

Mr. Dickson's *C. pumilum*, *Curt. Lond. fasc.* 6. *t.* 30, appears to me, from the examination of several living specimens, a variety only of this plant with somewhat larger and more deeply cut petals, and larger fruit, changes to which other plants of this natural order are liable from a barren soil and open sunny situation.





Aug. 1.1806. Published by Jas. Sowerby, London.

SISYMBRIUM Irio.

London Rocket.

TETRADYNAMIA Siliquosa.

GEN. CHAR. *Pod* cylindrical, bursting with nearly straight valves. *Cal.* and *Cor.* spreading.

SPEC. CHAR. Leaves runcinate, toothed, naked. Stem smooth. Pods erect.

SYN. Sisymbrium Irio. *Linn. Sp. Pl.* 921. *Sm. Fl. Brit.* 705. *Huds.* 297. *With.* 583. *Hull.* 150. *Relh.* 258. *Sibth.* 207. *Curt. Lond. fasc.* 5. *t.* 48. *Jacq. Austr. t.* 322.

Erysimum latifolium neapolitanum. *Raii Syn.* 298.

THIS species of *Sisymbrium* is chiefly known in waste ground about London near the Thames. In Chelsea garden, and all that neighbourhood, it is a troublesome weed. The root is annual, the flowers are produced from May to August, and the seeds ripened during most of that period in great profusion. After the fire of London it is said to have been peculiarly abundant; whence some botanists of that time, not being able to trace its origin, deduced an argument in favour of spontaneous generation: an argument as unnecessary to be refuted now, as some opinions concerning sky-fallen stones may be a century hence.

The herbage of this plant is generally quite smooth, yet not so completely as Mr. Curtis mentions, for the upper part of the stem is often downy, and the calyx hairy. Stem about 2 feet high, branched, round. Leaves alternate, pinnatifid; the lobes recurved, toothed chiefly at the upper edges. Flowers small, yellow. Pods numerous, long, slender, rugged when ripe. Taste of every part like mustard.

I beg leave here to mention that my worthy friend Dr. Gray of the British Museum has very properly reminded me of his having many years ago shown me specimens of *S. murale*, which, at *p.* 1090 of this work, is mentioned as a more recent discovery. We then judged it a variety of *S. tenuifolium*, and it escaped my recollection. Other botanists, indeed, have shown me real varieties of *tenuifolium* for *murale*.

Aug. 1806. Published by Jas. Sowerby, London.

JUNGERMANNIA furcata.

Forked Jungermannia.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male flowers sessile.

Capsule on a stalk rising from a sheath, of 4 valves.

Seeds attached to elastic filaments.

SPEC. CHAR. Frond linear, branched, entire; the extremities forked and obtuse. Sheaths hairy.

SYN. Jungermannia furcata. *Linn. Sp. Pl.* 1602. *Huds.* 518. *With.* 868. *Hull.* 282. *Relh.* 441. *Sibth.* 313. *Abbot.* 254. *Hedw. Theor. t.* 19, 20.

Lichenastrum tenuifolium furcatum, thecis globosis pilosis. *Dill. Musc.* 512. *t.* 74. *f.* 45.

Ulva saxatilis furcata, latiusculis et tenerioribus segmentis. *Raii Syn.* 63.

NOT rare on stones in damp places, nor among mosses on the bark of trees, where it bears fruit in April and May, but by no means commonly. Dillenius, after having long sought in vain for the capsules, found them on some beech trees in Sussex: our specimens were sent by C. Lyell, Esq. from the New Forest, Hants.

The fronds are of a light pleasant green, and form loose tufts, growing for the most part prostrate. They are known by their linear branched form. The ends are forked and bluntish, the edges entire, and a midrib runs through the whole. From this rib, on the under side, spring the globular hairy sheaths, which turn upwards, round the edge of the frond, and each produces a whitish slender stalk, bearing the brown capsule, which soon splits into 4 valves.

July 1.1806. Published by Jas. Sowerby, London.

JUNGERMANNIA minutissima.

Minute Round-leaved Jungermannia.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male flowers sessile.

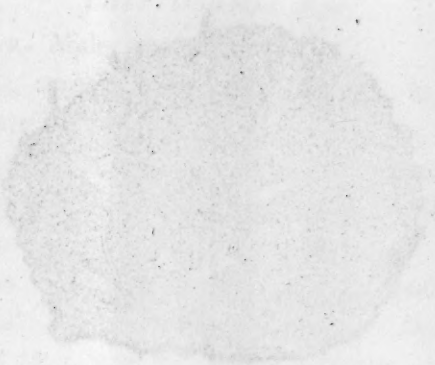
Capsule on a stalk rising from a sheath, of 4 valves.

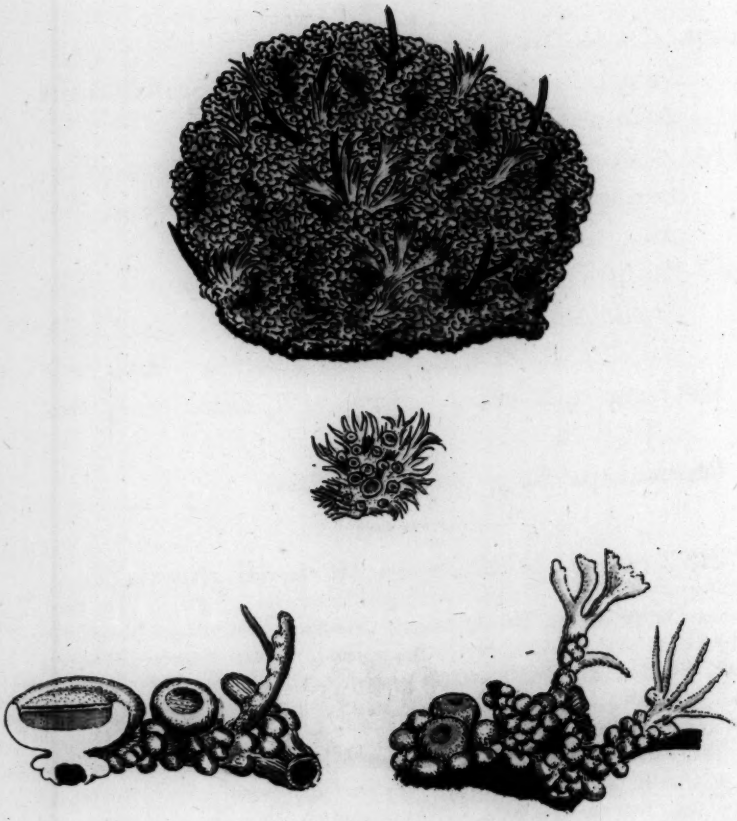
Seeds attached to elastic filaments.

SPEC. CHAR. Stems branched, creeping. Leaves alternate, roundish, concave, entire, without auricles. Sheaths turbinate, with five angles.

THIS very beautiful little *Jungermannia* was found by Mr. Lyell in the New Forest, growing on the bark of holly and ash trees near the ground, bearing fruit, which is rare and very short-lived, in April and May. We presume it to be nondescript, and its discoverer is certainly entitled to the praise of great acuteness of observation.

The stems often creep over other species of the same genus, from which this is distinguished by its lighter and brighter colour. They are very slender, much branched, and leafy. Leaves alternate, rather distant, sessile, roundish, concave, entire, destitute of auricles or stipulas. Sheaths axillary, solitary, much larger than the leaves, turbinate or top-shaped, with 5 prominent keels or angles, smooth, accompanied by a pair of bracteas at their base. Fruitstalk and capsule pale brown, or almost white.





Aug. 1.1816 Published by Jas. Sowerby, London.

LICHEN upsaliensis.
Upsal Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, polished, glaucous-white, bearing slender awl-shaped bristles. Shields flat, pale, with a thick smooth border.

SYN. Lichen upsaliensis. *Linn. Sp. Pl.* 1609. *Ach. Prod.* 37. *Ehrh. Phytoph. n.* 20. *Dicks. Crypt. fasc.* 1. 12. *t.* 2. *f.* 7. *With. v.* 4. 24. *Hull.* 292.

Patellaria upsaliensis. *Hoffm. Pl. Lich. v.* 1. 95. *t.* 21. *f.* 2.

Parmelia parella γ. *Ach. Meth.* 165.

FIRST found in Britain by the late Rev. H. Bryant, (commemorated in the Trans. of Linn. Soc. *v.* 7. 297), who observed it on some barren sandy heaths a few miles north of Norwich about the year 1782. Last winter it was gathered near Sprowston, in the same neighbourhood, by Mr. Turner and the Rev. G. R. Leathes, to the latter of whom we are obliged for specimens.

The crust is very thin, rugged but polished, of a blueish or glaucous white, running over the turfy earth, and investing mosses, leaves of grass, or fragments of decayed plants, in its course. Its greatest singularity consists in the fine slender bristles which it here and there produces, which are in our opinion, and Mr. Turner agrees with us, essential to this species, and quite distinct from those prominences merely caused by leaves of mosses &c. invested with the crust. These last, being confounded with the genuine bristles of the plant, have perhaps induced the learned Dr. Acharius to consider it as only a variety of *L. Perellus, t.* 727. The shields are sessile, with a thick smooth border of the colour of the crust; their disk flat, pale buff, redder within. They are but sparingly produced in this country.

Aug.1.1806. Published by Jas. Sowerby, London.

LICHEN palmatus.

Palmate Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond gelatinous, imbricated, tufted, greenish-brown; its segments thin, linear, many-lobed, somewhat palmate, revolute. Shields scattered, reddish.

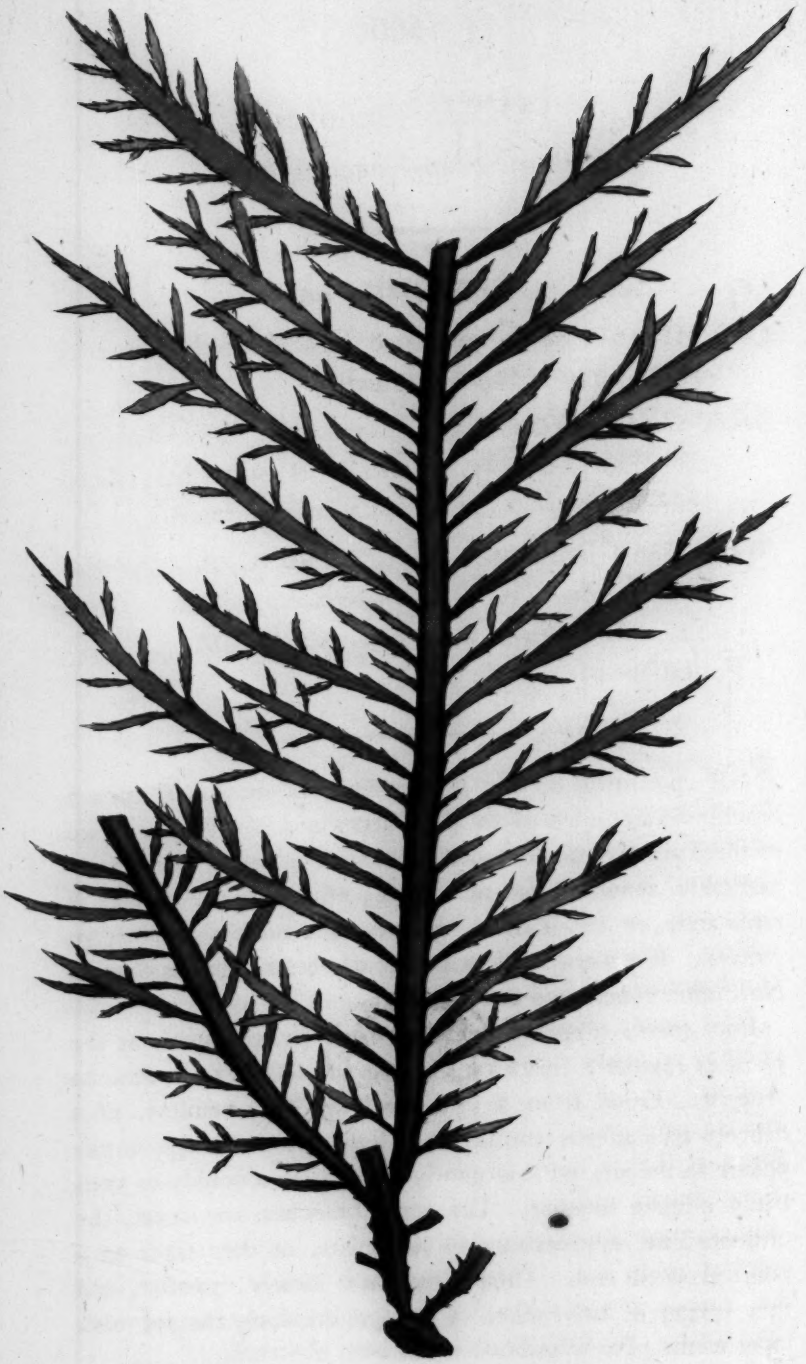
SYN. Lichen palmatus. *Huds.* 536. *Ach. Prod.* 135. *With. v.* 4. 74. *Hull.* 301.

Lichenoides pellucidum fuscum corniculatum. *Dill. Musc.* 143. *t.* 19. *f.* 30.

L. gelatinosum tenerius laciniatum, ex fusco purpurascens. *Raii Syn.* 72.

WE see no reason to doubt this being the *L. palmatus* of Hudson, notwithstanding the suppositions to the contrary in Acharius and Withering; neither is his description of the shields, which no person before him had detected, inaccurate. Mr. Turner favoured us with specimens in fructification from sandy ground to the north of Yarmouth, near the sea.

This species belongs to the tribe of *Collemata*, but is not very gelatinous, being so thin as to be almost membranous. Its colour is a greenish pellucid brown, often tinged with a glaucous or purplish hue. The fronds form tufts on the ground among moss or other Lichens, and are near an inch high, crowded or imbricated, very much cut, forked and toothed, the edges all revolute. Small sessile globose brown shields are scattered about the disk of the lobes on the fore side, whose margins are reddish and entire.



Aug. 2 1806. Published by ... January ... London.

FUCUS ligulatus.

Green Strap-leaved Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

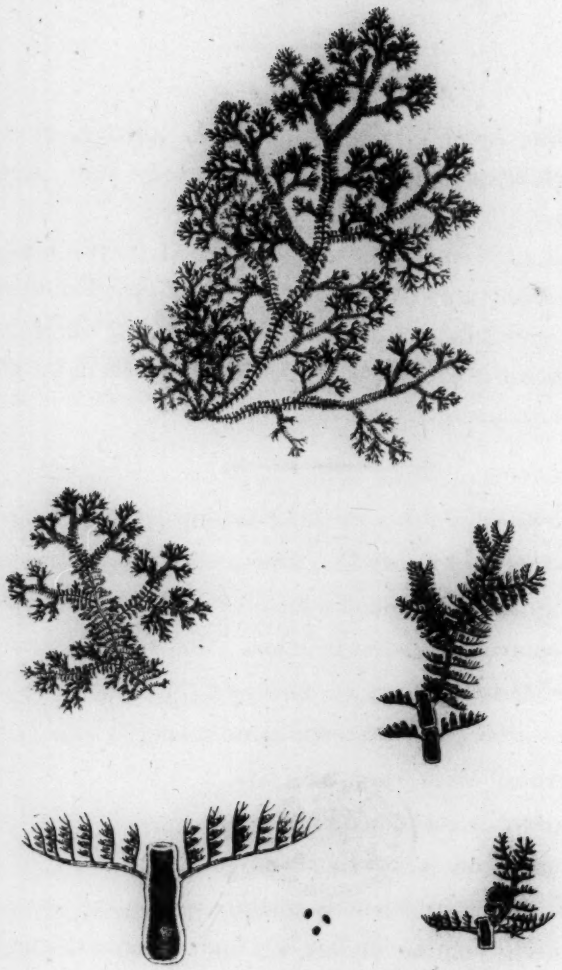
SPEC. CHAR. Frond flat, without veins, somewhat cartilaginous, doubly pinnate: its segments linear, acute, opposite, fringed with spinous teeth.

SYN. Fucus ligulatus. *Lightf.* 946. *t.* 29. *Gooden. and Woodw. Tr. of Linn. Soc. v.* 3. 123. *Turn. Syn.* 99. *With. v.* 4. 101. *Hull.* 317.
F. herbaceus. *Huds.* 582.

FOR specimens of this Fucus, cast up on the Yarmouth beach, we are indebted to Mr. Turner and Mr. Wigg. Two or three years ago, after much stormy weather, they were remarkably abundant on that coast; otherwise the species is rare, and, as Mr. Turner observes, not noticed by foreign writers. It is mentioned as having also been found in Sussex, Northumberland, and Scotland.

Root small, supposed by Mr. Turner to be annual, as the plant is regularly thrown up by the sea chiefly from June to August. Frond from 2 to 6 feet long, flat, veinless, of a delicate pale green, turning to a light brown by age or exposure to the air, most elegantly divided, in a doubly or even triply pinnate manner. The main branches are linear, the ultimate ones approaching to lanceolate, as they taper to a point at each end. Their situation is nearly opposite, and they spread in two ranks. The edges are finely fringed with taper teeth. No fructification has been observed.

BRITISH MUSEUM



Aug. 12 1816. Published by Jas. Sowerby, London.

CONFERVA Turneri.

Turnerian Conferva.

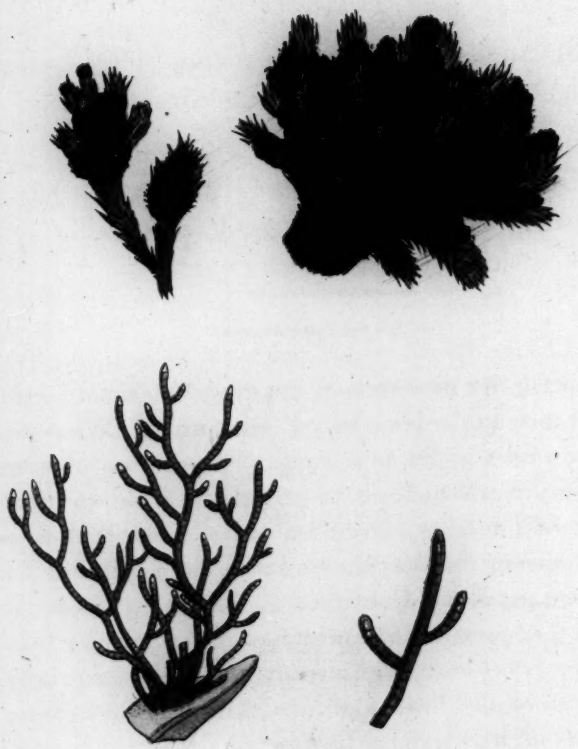
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Red, repeatedly branched, very slender and tufted; the ultimate branches all pectinated on the upper side. Articulations pellucid, cylindrical. Capsules globose, sessile between the teeth of the branches, leaning one way.

THE knowledge of this new and beautiful species of Conferva we have derived from Mr. Turner, whose deep acquaintance with the intricate tribe to which it belongs justly entitles him to be commemorated in the name. Our specimens were collected by Miss Biddulph, in the sea off the Isle of Wight, and near Southampton, some of them so long ago as 1790, in the months of May, June and July.

This Conferva seems allied to the *rosea*, figured in our 14th volume, *t.* 966, but is clearly distinguished by its ultimate subdivisions, which are finely pectinate, or formed of rows of little taper teeth pointing all one way and towards the upper part. These little comb-like branches are regularly ranged, in an opposite manner, all along the stem. The capsules are sessile between the teeth, globular, deep red, at length scattering their seeds (which are large in proportion to the capsules) over the branches, to which they for a while adhere.



Aug.1.1808. Publish'd by Ja.s Sowerby, London.

CONFERVA muscicola.

Rusty Moss Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

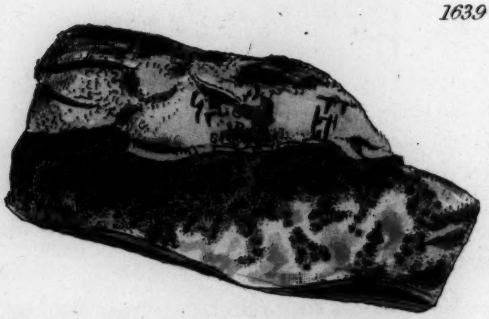
SPEC. CHAR. Rusty brown. Filaments upright, crowded, much and irregularly branched. Joints even, twice as broad as they are long.

MR. LYELL, the discoverer of *Conferva lichenicola*, *t.* 1609, has also detected this new species, growing on *Orthotrichum striatum*, on trees in the New Forest, Hampshire. We were, at first sight, much inclined to suppose it some uncommon luxuriance of the radical fibres, so conspicuous on the stems of many mosses; but, as Mr. Sowerby has ascertained it to proceed from the very disk of the leaf, we can no longer doubt its being a new parasitical Conferva.

It forms very copious and dense tufts, of a dark rusty brown. The stems are 2 or 3 lines high, erect, much and irregularly branched, crooked, divaricated, of equal thickness throughout, glossy like human hair under a microscope; the branches ascending, obtuse, frequently pointing one way. The joints are very short, not swelling, often scarcely visible on account of their opacity.

Tufts of a somewhat similar production, but short and simple, are often found on the same kind of *Orthotrichum*, whose nature we are unacquainted with. Can they be an early state of this Conferva?

L



Sept.1.806. Published by Jas. Sowerby, London.

CONFERVA ilicicola.

Yellow Holly Conferva.

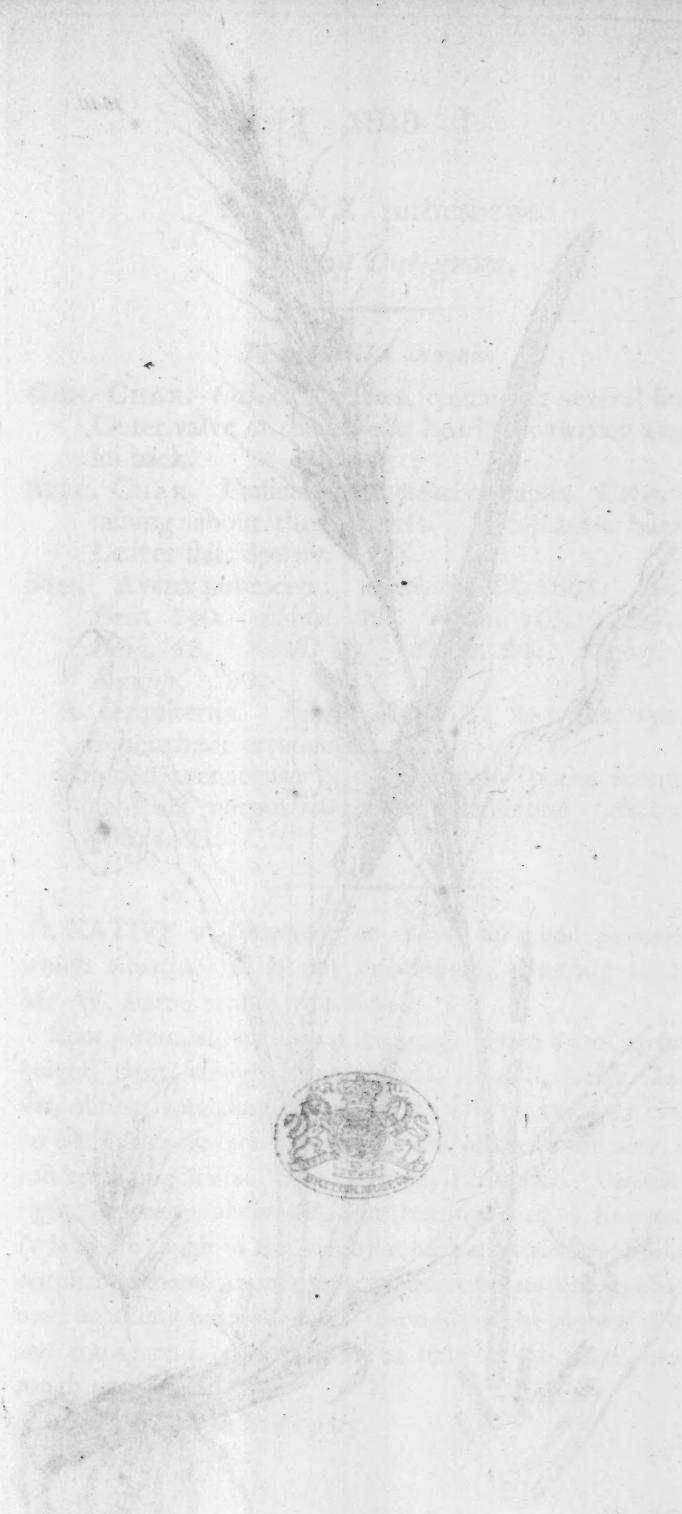
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Permanent tawny yellow. Filaments upright, tufted, alternately branched. Joints even, nearly as broad as they are long.

FOUND by Mr. Lyell on the smooth bark of hollies in the New Forest in the spring. Sometimes it invests specimens of *Lichen inclusus*.

The whole is of a deep, or rather tawny, yellow, which, after several months' experience, we have found not to change by keeping. The filaments form little tufts, scattered more or less distantly over the bark, and scarcely half a line in height. Each filament is alternately branched, equal in thickness throughout, and, as far as can be discovered, of an even surface; but being only one 2000dth part of an inch in diameter, its precise structure is not easily seen. The joints however are observed by Mr. J. D. Sowerby to be scarcely at all longer than they are broad, on which we would principally found its specific difference from *Conferva aurea*, *t.* 212, whose joints are twice or thrice as long as they are broad, frequently more, and by no means of an uniform thickness. Under high magnifiers we have sometimes seen a number of lateral sessile globules on *C. ilicicola*, but we dare not aver them to be fructification.



Sept.1.1816. Published by Ja.s Sowerby London.

AVENA pubescens.

Downy Oat-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing several florets. Outer valve of the *corolla* bearing a twisted awn on its back.

SPEC. CHAR. Panicle erect, nearly simple. Calyx containing about three florets. Receptacles bearded. Leaves flat, downy.

SYN. Avena pubescens. *Linn. Sp. Pl.* 1665. *Sm. Fl. Brit.* 140. *Huds.* 52. *With.* 165. *Hull.* 26. *Relh.* 42. *Sibth.* 49. *Abbot.* 24. *Lightf.* 105. *Knapp, t.* 90.

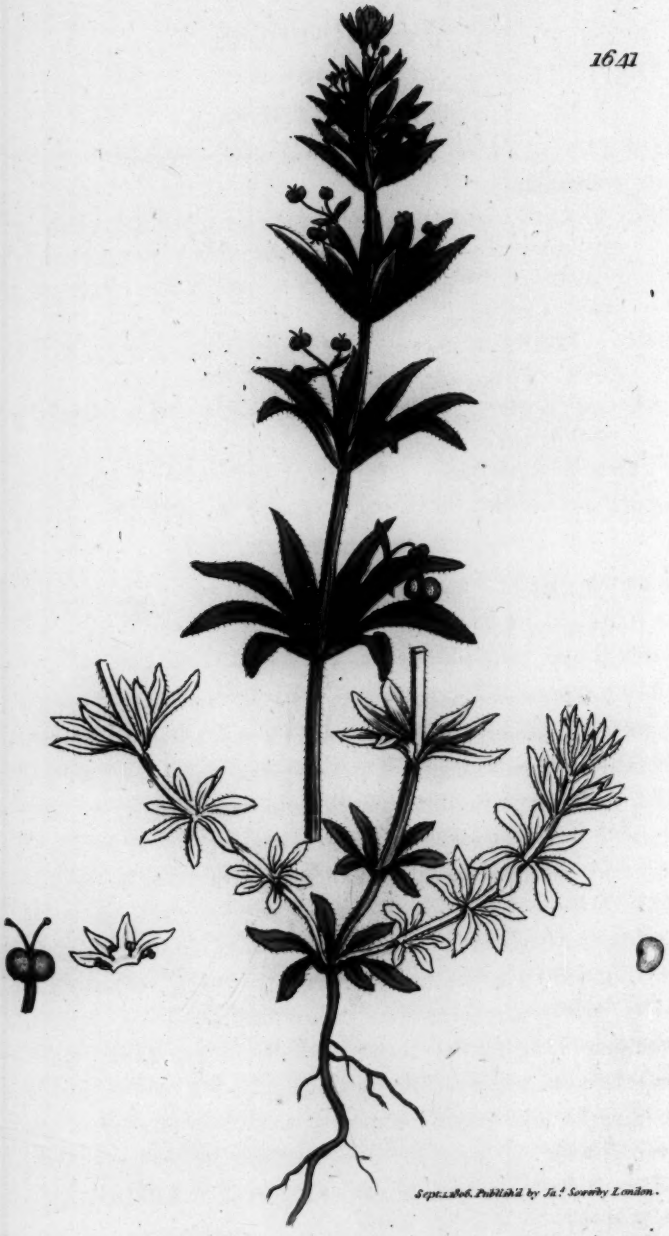
A. sesquitertia. *Linn. Mant.* 1. 34; the syn. of Scheuchzer erroneous.

Gramen avenaceum 7, seu glabrum (potius hirsutum) paniculâ purpuro-argenteâ splendente. *Raii Syn.* 406. *t.* 21. *f.* 2.

A NATIVE of limestone or chalky hills and pastures, in which situations it is not uncommon, flowering in June. Mr. W. Borrer sent it from Sussex.

Root perennial, somewhat creeping. Stem a foot or two in height, erect, straight, unbranched, smooth, leafy. Leaves flat, obtuse, spreading, short, except when luxuriant; clothed on both sides, as are also the sheaths of the lower ones, with soft spreading hairs. Stipula acute, triangular. Panicle upright, scarcely subdivided, but bearing 3 or 4 flowerstalks (which are rough to the touch) at each subdivision. Spikelets purplish, generally containing 2 perfect florets and an abortive one, on a long bearded stalk. Summit of the glumes shining and transparent. Awns twice as long as the calyx, brown, rough and twisted.

It is of no use in husbandry.



Sept.1.1806. Published by Ja.s Sowerby London.

GALIUM tricorne.

Corn Bedstraw.

TETRANDRIA Monogynia.

GEN. CHAR. *Cor.* of one petal, flat, superior. *Seeds* 2, roundish.

SPEC. CHAR. Leaves about eight in a whorl, their margin, as well as the stem, rough with reflexed prickles. Flower-stalks axillary, three-flowered. Fruit granulated, drooping.

SYN. Galium tricorne. *With. ed.* 2, 153. *Sm. Fl. Brit.* 176. *Relh.* 56.

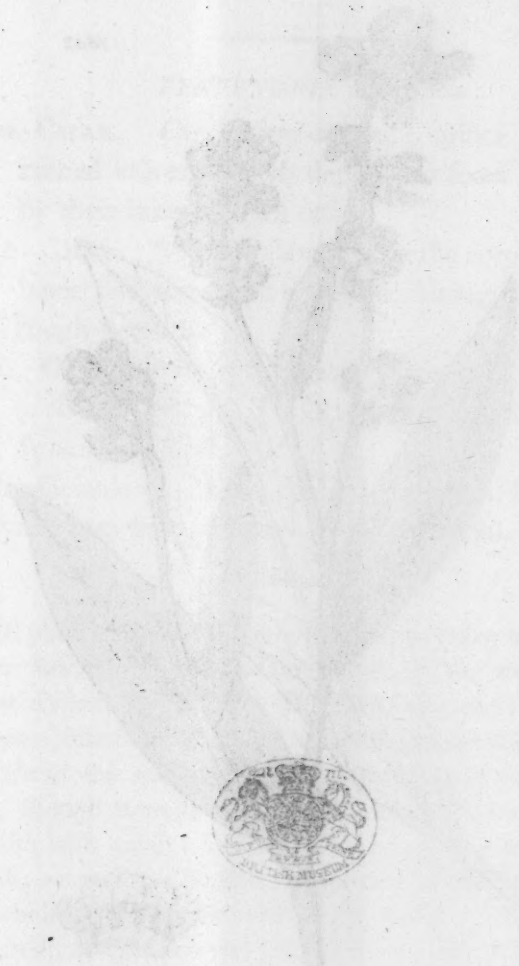
G. spurium. *Huds.* 68. *With.* 190. *Sibth.* 59. *Abbot.* 33.

Valantia Aparine. *Mart. Rust. t.* 122.

Aparine semine læviore. *Raii Syn.* 225.

GATHERED in June 1806, by Mr. D. Turner and Mr. W. Borrer, in fields near Carisbrook, Isle of Wight. It has been found occasionally in various parts of England, in dry chalky fields, and generally taken for *G. spurium* of Linnæus, a species distinct from this, which we have received from Mr. G. Donn, who found it near Forfar, since the publication of *Fl. Brit.* We hope to obtain living specimens, in order to publish a figure at some future opportunity.

G. tricorne has a small annual root, producing several weak simple leafy stems, whose angles are rough with prickles pointing downwards. The leaves grow commonly 8 in a whorl, and their edges, sometimes their keels, are rough with similar prickles. Flowerstalks axillary, solitary, alternate, scarcely so long as the leaves, prickly in the same manner, three-cleft, bearing mostly 3 flowers and a pair of bracteas. The flowers are cream-coloured, rarely all fertile. Stalks curved downward after flowering. Fruit rather large, granulated with little points, and looking as if it had been shaved with a razor.



Sept.1.1808. Published by Jas. Sowerby, London.

CYNOGLOSSUM sylvaticum.

Green-leaved Hound's-tongue.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* funnel-shaped; orifice closed with arched valves. *Seeds* depressed, fixed to the style by their inner margin only.

SPEC. CHAR. Stamina shorter than the corolla. Leaves lanceolate, somewhat spatulate, shining, partly naked, rough beneath.

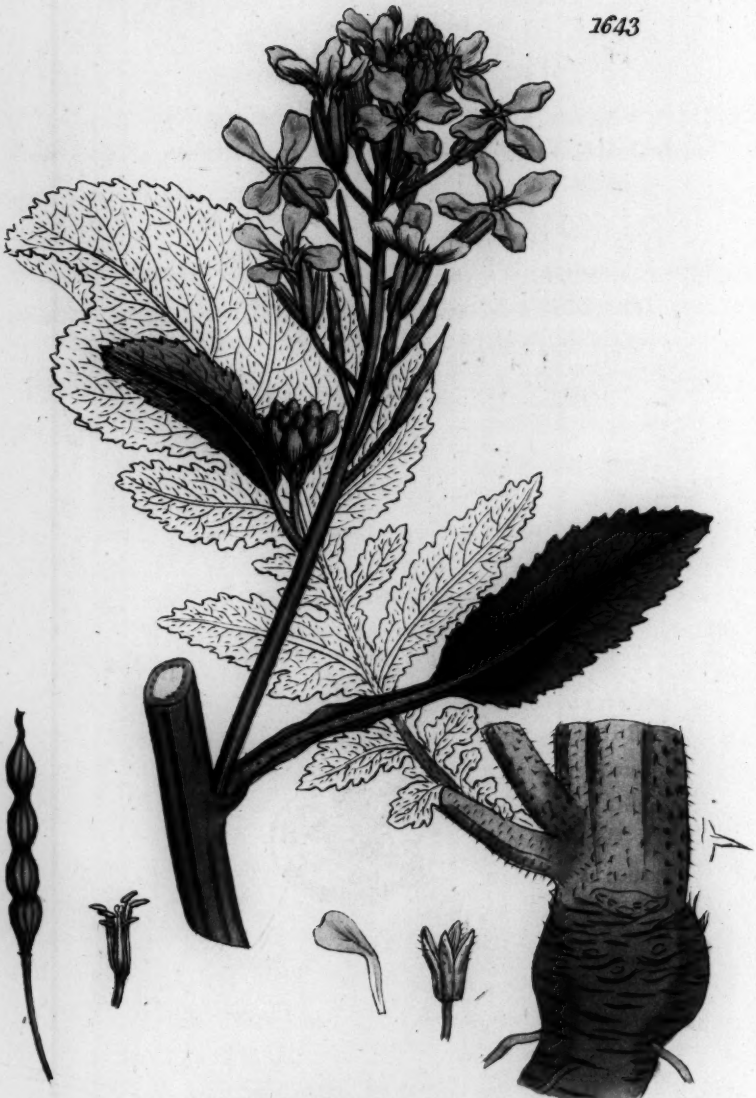
SYN. Cynoglossum sylvaticum. *Haenke in Jacq. Coll. v.* 2. 77. *Sm. Fl. Brit.* 216. *With.* 228. *Hull.* 46. *Sym.* 51. *Sibth.* 70.

C. officinale γ. *Linn. Sp. Pl.* 193. β. *Huds.* 80.

Cynoglossa folio virente. *Raii Syn.* 226.

THE plant from which our specimen was taken was collected by the Rev. Dr. Abbot in Oxfordshire. This is unquestionably a distinct species from *C. officinale, t.* 921. Its leaves are more dilated at the base, of a bright and shining green, destitute of the soft downiness and grey hue of that common plant, though more or less hairy underneath: both sides are roughish with small tubercles. Calyx hairy. Flowers at first reddish, assuming a blueish hue as they advance to maturity. The whole herb is almost without any fœtid smell. The root is biennial, and the flowers appear in June. Mr. J. D. Sowerby has observed that wherever a flower is cut off, a sweet honey-like juice oozes from the wound.

This species is found about hedges in several parts of England, especially in Essex; but, like many other biennials or annuals, it often changes its abode. It is also a native of Switzerland, being Haller's *Cynoglossum*, No. 588.



Sept.1.1806. Published by Jn.t Sowerby London.

RAPHANUS maritimus.

Sea Radish.

TETRADYNAMIA Siliquosa.

GEN. CHAR. *Cal.* closed. *Nectariferous glands* 4. *Pod* cylindrical, swelling out into knobs, seeming jointed.

SPEC. CHAR. Pods jointed, smooth, deeply furrowed. Radical leaves interruptedly lyrate.

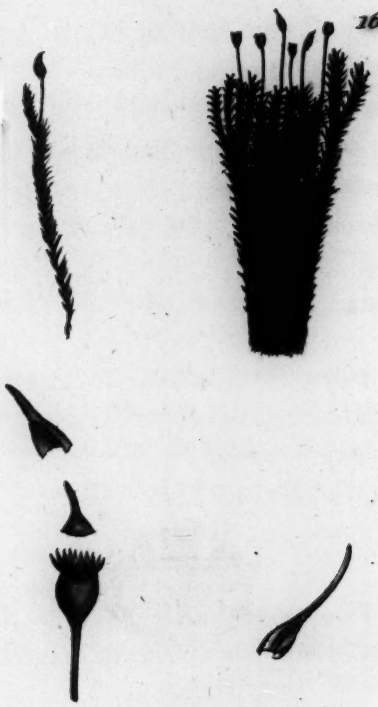
SYN. Raphanus Raphanistrum γ. *Sm. Fl. Brit.* 723.
R. maritimus flore luteo, siliquis articulatis, secundum longitudinem eminenter striatis. *Raii Syn.* 296.
Raphanistrum siliquâ articulatâ striatâ maximâ. *Moris. v.* 2. 266. *Raii Hist. v.* 1. 806.

SINCE the publication of *Fl. Brit.* I received specimens of this plant from the late Mr. J. Mackay, who observed it on the beach 3 miles from the Mull of Galloway. It was found in that neighbourhood, as well as in the isle of Bute and other places, so long ago as 1753, by my venerable friend the late Rev. Dr. Walker, Professor of Natural History at Edinburgh, who cultivated it till his death as an esculent root, preferable to Horse Radish, and who found cattle to be extremely fond of the herbage. Our fresh specimens were gathered, the end of last May, on rocks near Beachy Head, Sussex, by Mr. Turner and Mr. W. Borrer.

The root is biennial, sometimes, according to Dr. Walker, triennial, large and succulent. Stems 3 or 4 feet high, round, roughest at the base. Radical leaves interruptedly lyrate, which in *R. Raphanistrum*, as far as we have observed, are only simply lyrate: all the leaves rough, and rather sharply toothed. Flowers more yellow than in that species, and less veiny. Pods remarkably and deeply furrowed longitudinally, and strongly jointed, destitute of hairs or roughness.

It always grows near the sea, and is, we have no doubt, a distinct species. The synonym of Petiver's Herball, *t.* 46. *f.* 11, seems doubtful, and is best omitted.

1644.



Sept.1.1806. Published by Jas. Sowerby London.

GRIMMIA acuta.

Sharp-pointed Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves awl-shaped, with a capillary point. Capsule ovate, with a spreading mouth. Lid with a taper oblique point.

SYN. Grimmia acuta. *Sm. Fl. Brit.* 1192. *Turn. Musc. Hib.* 29.

Weisia acuta. *Hedw. Sp. Musc.* 71. *Crypt. v.* 3. 85. *t.* 35.

Bryum acutum. *Huds.* 484. *With.* 823. *Hull.* 260. *Dicks. H. Sicc. fasc.* 17. 20.

B. verticillatum. *Lightf.* 733. *Huds. ed.* 1. 411, *β*.

B. pilosum, Sphagni subulati facie. *Dill. Musc.* 374. *t.* 47. *f.* 34.

ABUNDANT on the Scottish and Welch alps. Our specimens were sent from the mountains of Mourne in Ireland, in June 1805, by Mr. Templeton.

The stems form perennial soft silky tufts, and are slender, somewhat branched, generally about 3 inches high, leafy. Leaves rather curved to one side, of a yellowish or brownish green, shining, awlshaped, broad at the base, entire, single-ribbed, ending in a capillary, but not white or pellucid, point. They never become curled or crisped by drying. Fruitstalks lateral, (from the lengthening of the branch immediately after flowering), sheathed at the base with leaves, erect, red or green, slender, twisted when dry. Capsule upright, ovate, smooth, taper at the base, its mouth more or less dilated. Lid as long as the capsule, awlshaped, slender, curved. Fringe red. Veil brown.

Sept.1.1806 Published by Jas. Sowerby London.

GRIMMIA maritima.

Sea Grimmia.

CRYPTOGAMIA Musci.

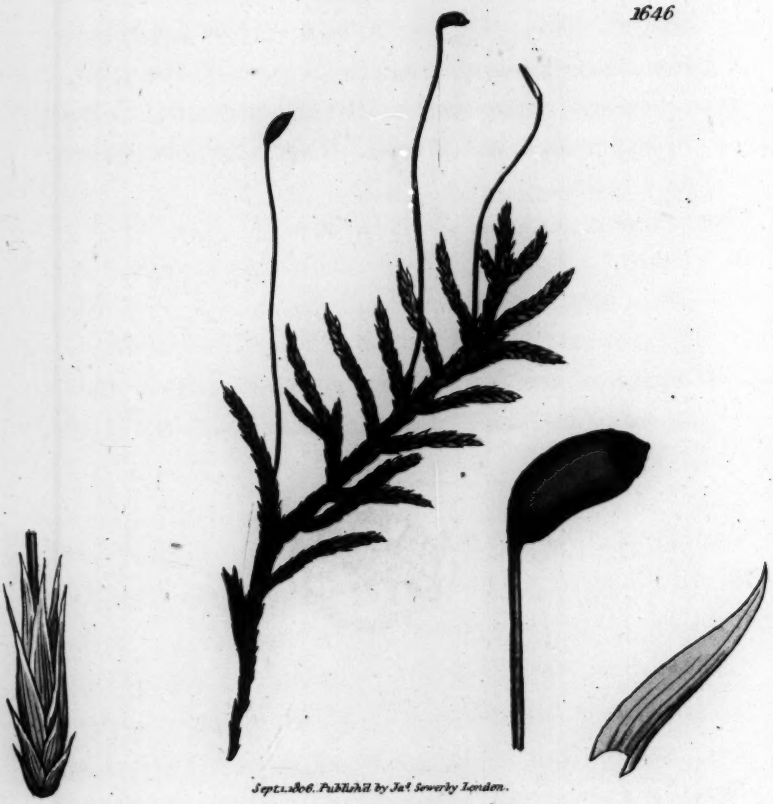
GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves lanceolate, acute, beardless, incurved when dry. Capsule urnshaped. Fringe imperforate. Lid with a short straightish point.

SYN. Grimmia maritima. *Sm. Fl. Brit.* 1199. *Turn. Musc. Hib.* 23. *t.* 3. *f.* 2.

WE first received this moss from Mr. G. Donn, who found it on rocks exposed to spring tides about the ferry at Dundee, and also on the coast of Fife. Dr. Scott observed it in similar situations at Balbriggen in Ireland, and Mr. Templeton mentions it as common on all the maritime rocks of that country. It bears fruit from July to October, and is perennial.

The short upright branched stems, thickly clothed with dark leaves, form dense tufts of a dull brown hue. The leaves are lanceolate, entire, taper-pointed, but not bearded, so that the plant has no hoary appearance; they have a strong central rib. The younger leaves are of a bright green, but they soon turn brown, not black. Capsules terminal, on short erect stalks, short, cup- or urn-shaped, smooth, brown, not rising so high as the leaves; their orifice dilated. Fringe dark red, its teeth not (as in some species) pierced with holes. Lid broad at the base, convex, its point short, and but slightly curved.



Sept.1.1806. Published by Jas. Sowerby London.

HYPNUM nitens.

Shining Yellow Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

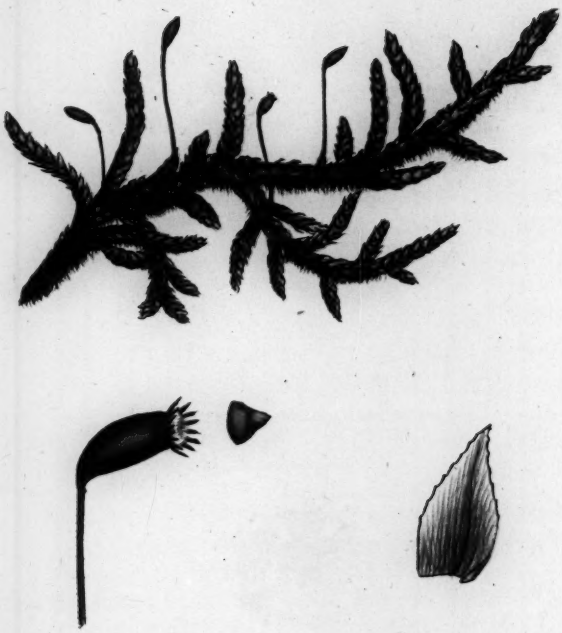
SPEC. CHAR. Stem erect. Branches short. Leaves lanceolate, pointed, striated. Capsule oblong, curved and inclining.

SYN. Hypnum nitens. *Schreb. Lips.* 92. *Sm. Fl. Brit.* 1316. *Linn. fil. Meth. Musc.* 34. *Hedw. Sp. Musc.* 255. *Dicks. Crypt. fasc.* 2. 12. *H. Sicc. fasc.* 1. 24. *With.* 852. *Hull.* 270.

H. palustre erectum trichodes, ramulis crebris, luteo- et rufo-virentibus, glabris. *Dill. Musc.* 303. *t.* 39. *f.* 37.

GATHERED by the Rev. Mr. Dalton in marshy ground between Copgrove and the river Ure, Yorkshire, in May 1806. It is among the rarer species of *Hypnum*.

The stems are erect, from 4 to 8 inches high, throwing out numerous, short, spreading, leafy, simple branches. Leaves conspicuous for their shining yellow colour, imbricated, lanceolate, pointed, entire, marked with 3 or 5 longitudinal plaits. Sheaths from the main stem, solitary, oblong and tapering, of many similarly plaited leaves. Fruitstalks slender, variously bent, 2 inches long, red, smooth. Capsule inclining, oblong, curved, smooth, red-brown. Lid conical, acute, short.



Sept.1.1806. Published by Jas. Sowerby, London

HYPNUM brevirostre.

Common Rough-stalked Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Branches straggling. Leaves ovate, pointed, slightly serrated, single-ribbed about half their length. Lid conical. Fruit-stalk granulated.

SYN. Hypnum brevirostrum. *Ehrh. Crypt.* 85.

H. Rutabulum. *Linn. Sp. Pl.* 1590. *Sm. Fl. Brit.* 1320. *Hedw. Sp. Musc.* 276. *Crypt. v.* 4. 29. *t.* 12. *Huds.* 496. *With.* 851. *Hull.* 270. *Relh.* 432. *Sibth.* 297. *Abbot.* 245. *Turn. Musc. Hib.* 179.

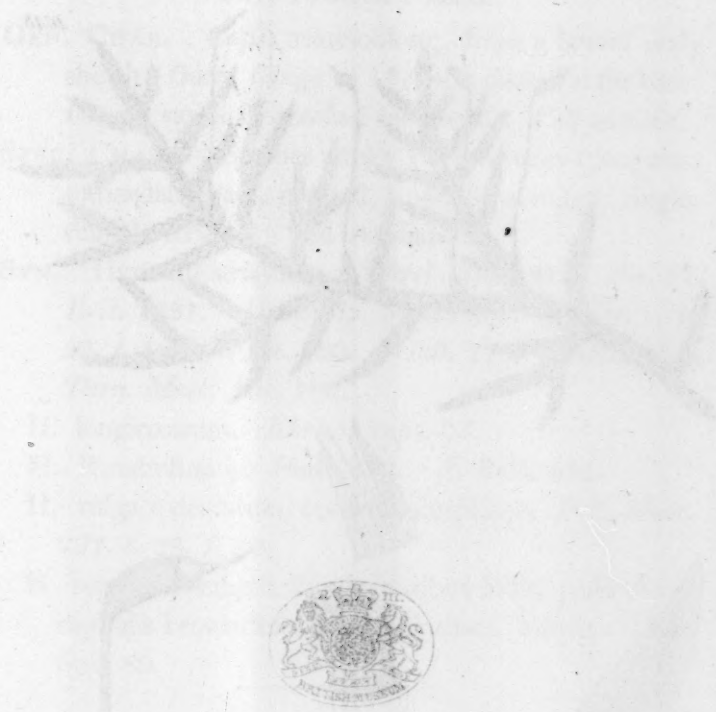
H. dentatum vulgatissimum, operculis obtusis. *Dill. Musc.* 295. *t.* 38. *f.* 29.

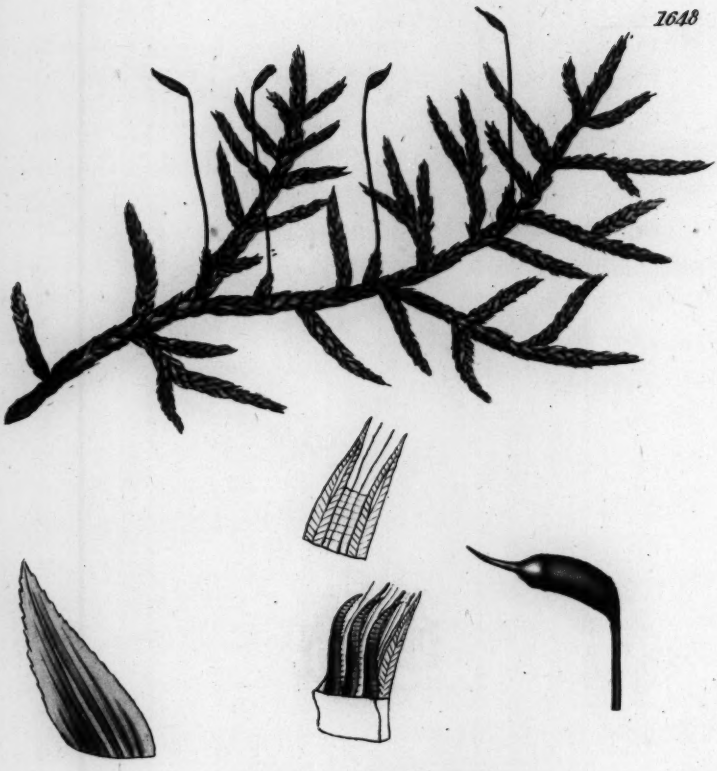
H. repens, triangularibus minoribus foliis. *Raii Syn.* 80.

ONE of the most common of Mosses about trees, hedges, and bushy places, bearing fruit in the spring.

Stems perennial, elastic, procumbent, from 3 to 6 inches, or more, in length, irregularly branched; the branches curved, cylindrical, leafy, taper-pointed. Leaves light yellowish green, spreading every way, rather shining, ovate, broadish at the base, pointed, plain, furnished with a rib which disappears before it reaches the point, the edge (especially of the upper half) marked with broad shallow serratures. Fruitstalks an inch or more in length, red, all over granulated or rough with minute tubercles. Sheath small, loosely imbricated. Capsule ovate, curved and inclining, smooth. Lid short, conical, bluntish with a little point.

The old specific name, derived from an extremely reprehensible fancy of Vaillant's, has inadvertently been admitted hitherto; but it is never too late to alter what can convey no other idea than a bad one. Respecting such changes we trust apologies are needless. We therefore adopt the expressive name of Ehrhart, only amending its latinity.





Sept.1.1806. Published by Jas. Sowerby. London.

HYPNUM striatum.

Common Striated Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Branches straggling. Leaves triangular, somewhat ovate, pointed, minutely serrated, single-ribbed, striated. Lid awlshaped.

SYN. Hypnum striatum. *Schreb. Lips.* 91. *Sm. Fl. Brit.* 1321. *Hedw. Sp. Musc.* 275. *Crypt. v.* 4. 32. *t.* 13. *With.* 850. *Hull.* 270. *Sibth.* 415. *Turn. Musc. Hib.* 180.

H. longirostrum. *Ehrh. Crypt.* 75.

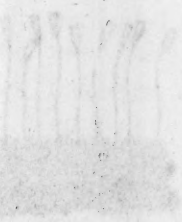
H. Rutabulum γ. *Huds.* 497. β. *Relh.* 433.

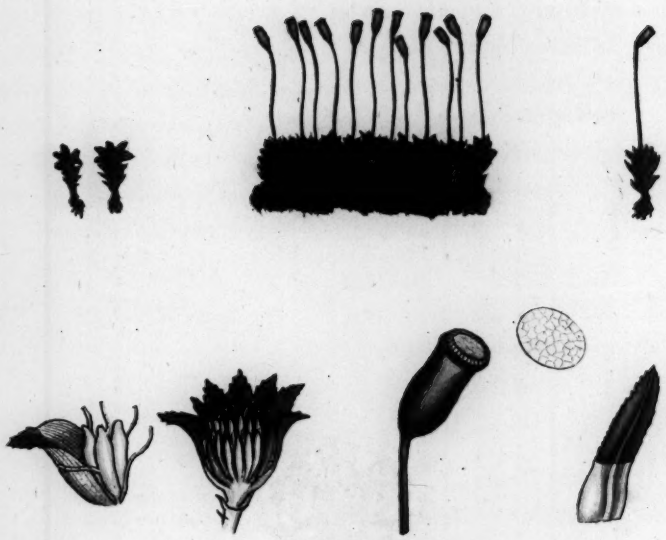
H. vulgare dentatum, operculis cuspidatis. *Dill. Musc.* 297. *t.* 38. *f.* 30.

H. repens, triangularibus minoribus foliis, pediculis et capitulis brevioribus et tumidioribus, minus. *Raii Syn.* 80.

ALMOST as frequent as the last in shady bushy places, whether dry or wet, bearing fruit in March and April.

It agrees with *H. brevirostre* in habit and colour, but is generally somewhat larger and more straggling, and differs in many very essential characters. The leaves are so broad at the base as to be almost *deltoid* or triangular; their lower half is marked, on each side of the rib, with several longitudinal plaits or furrows; and their edge is finely, acutely, and closely serrated. The fruitstalks are always in every part smooth and even. The lid ends in a fine taper point, and is as long as the capsule.





Sowerby del. Published by Jas. Sowerby, London.

POLYTRICHUM aloides.

Dwarf Long-headed Hair-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Outer fringe* of 32 or 64 short incurved teeth: *inner* a flat undivided membrane. *Veil* generally double: the *outer* hairy.

SPEC. CHAR. Leaves lanceolate, obtuse, rigid, serrated towards the top. Capsule cylindrical, oblique. Stem unbranched.

SYN. Polytrichum aloides. *Hedw. Sp. Musc.* 96. *Crypt. v.* 1. 37. *t.* 14. *Menz. Tr. of Linn. Soc. v.* 4. 70. *Sm. Fl. Brit.* 1380. *With.* 796. *Hull.* 247. *Sibth.* 307. *Turn. Musc. Hib.* 88.

P. nanum. *Huds.* 470, α. *Lightf.* 701.

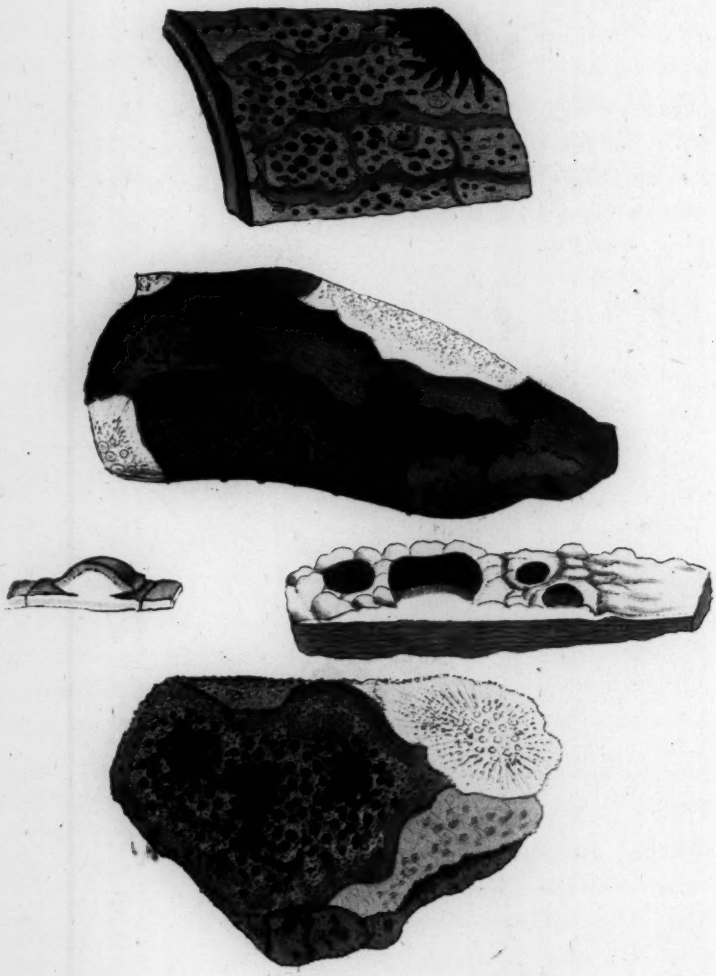
P. parvum, aloes folio serrato, capsulis oblongis. *Dill. Musc.* 429. *t.* 55. *f.* 7.

Mnium polytrichoides β. *Linn. Sp. Pl.* 1577.

FREQUENT on rather moist and shady banks near rivulets, bearing capsules in April or May, sometimes much later in the summer. We have gathered it at the Hermitage near Edinburgh in August.

This has the habit of *P. subrotundum* and *nanum*, *t.* 1624, 1625, but the stem is rather taller, though still always perfectly simple. Leaves more rigid and somewhat broader, strongly serrated at the edge, and even towards the top of the keel, concerning which last the description in *Fl. Brit.* requires some correction. Fruitstalk an inch or more in height, red, almost straight. Capsule scarcely drooping, but a little oblique, cylindrical, its mouth slightly dilated. Fringe of 32 teeth. Lid convex, with a small curved beak.

We have represented at A, A, a male flower, with the stamens, accompanied by some abortive filaments, all more or less magnified.



Sept.1.1806. Published by Jas. Sowerby, London.

LICHEN ferrugineus.

Rusty-shielded Lichen.

CRYPTOGAMIA Algæ.

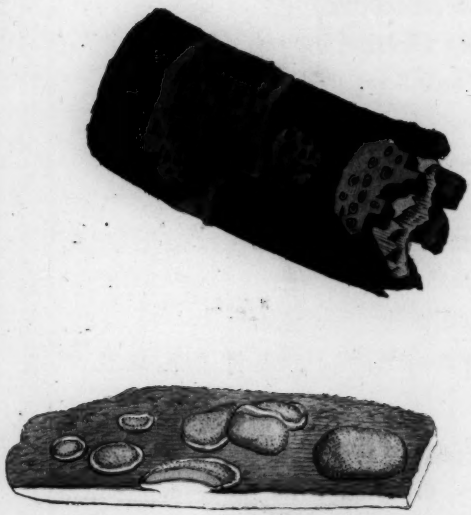
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust cracked, rugged, greyish white. Shields rusty orange, at length convex, with a waved notched margin of the same colour.

SYN. Lichen ferrugineus. *Huds.* 526.
L. aurantiacus. *Lightf.* 810.
L. crenularius. *With. v.* 4. 22. *t.* 31. *f.* 5. *Hull.* 291.
L. cæsio-rufus. *Schrad. Spicil.* 80. *Ach. Prod.* 45.
Patellaria cinereo-fusca. *Hoffm. Pl. Lich. t.* 12. *f.* 1.
P. ferruginea. *Hoffm. Pl. Lich. t.* 35. *f.* 1.
Verrucaria ferruginea. *Hoffm. Fl. Germ. v.* 2. 177.
Lecidea cæsio-rufa. *Ach. Meth.* 71.

BRITISH authors have been extremely confused about this Lichen, nor have foreigners well understood it. We are persuaded that the above synonyms are correct, and we think Mr. Hudson's original name by far preferable to the rest. His quotations of Linnæus and of Dillenius are indeed altogether erroneous. We have already alluded to the species before us at *t.* 845 and *t.* 1040 of this work.

L. ferrugineus grows on rocks and stones, as well as on the bark of trees, in various places. Its crust varies in thickness, but is more or less cracked and rugged, never mealy, of a greyish white. Sometimes it assumes a kind of lead-colour, and has a blackish edge. The shields are readily known by their rusty orange hue, always uniform in the same specimen, though specimens on sand-stones often have them of a dark brown orange. Their disks are flat when young, mostly convex when old. The margin is elevated, but not thick, soon becoming elegantly waved and crenate, of the same colour as the disk, or slightly brighter. The shields, being numerous, often crowd one another into an angular figure.



Ostrea Rob. Publish'd by Jas Sowerby, London.

LICHEN rosellus.

Little Rosy-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, granulated, pale ash-coloured. Shields swelling, flesh-coloured, with a pale smooth border.

SYN. Lichen rosellus. *Ach. Prod.* 52. *Persoon in Ust. Annal. fasc.* 7. 25. *Schrad. Spicil.* 85.

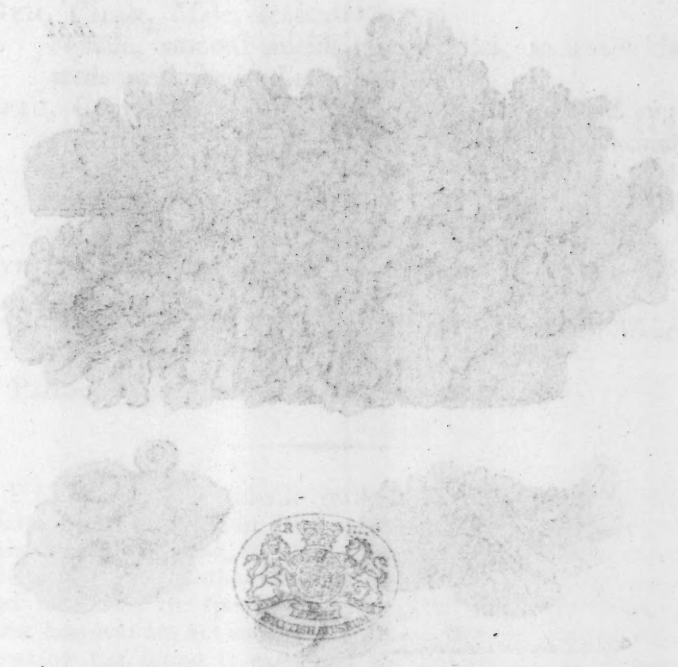
L. albo-incarnatus. *Wulf. in Jacq. Coll. v.* 3. 106. *t.* 2. *f.* 3.

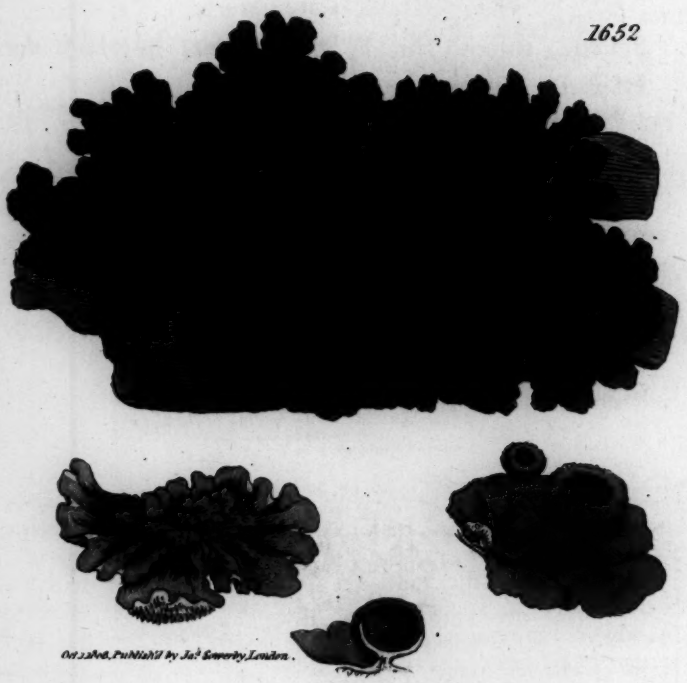
Lecidea rosella. *Ach. Meth.* 57.

Verrucaria rosella. *Hoffm. Germ. v.* 2. 176.

FOUND on trees in the New Forest, Hants, by Miss Biddulph, who has favoured us with specimens. Mr. Turner has received the same from Scotland. It agrees with an original specimen of Mr. Persoon's; and as no sufficient figure of it is extant, we are induced to publish one, though we could have wished first to complete our observation of the *L. angulosus* of Acharius and its varieties, to which this species seems too nearly allied.

The crust is thin, greyish white, granulated rather than mealy, spreading regularly over smooth bark, but broken and almost obliterated on old trees. Shields numerous but not much crowded, small, sessile; their disk almost from the first slightly convex, smooth not mealy, flesh-coloured; their margin in a young state very thick, smooth, even, pale or whitish, and somewhat waxy, growing thinner by age, and at length obliterated in consequence of the swelling of the disk.





Oct 1.1808. Published by Jas Sowerby, London.

LICHEN corrugatus.

Wrinkled-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, creeping, plaited, somewhat rugged, of a dark glaucous green; underneath blackish and fibrous: its lobes rounded and imbricated. Shields concave, rusty brown, externally wrinkled, with a notched and wrinkled margin.

SYN. Lichen corrugatus. *Tr. of Linn. Soc. v.* 1. 83. *Ach. Prod.* 122. *Schrad. Spicil.* 98.
Lichenoides acetabulis cutaneis et rugosis. *Dill. Musc.* 185. *t.* 24. *f.* 79.
Parmelia corrugata. *Ach. Meth.* 215.

I HAD the good fortune to gather the first specimen of this Lichen ever observed in Britain on a tree on the borders of Saham wood, Norfolk, in 1799, but could discover no shields. The Rev. G. R. Leathes has since found in the Earl of Bristol's park near Bury the specimen in our plate with a few shields; these however are not in such absolute perfection but that Mr. Sowerby has found it expedient to subjoin one of foreign growth. In Germany, France, Switzerland, and even Sweden, this species is far from rare, but, strange to tell! has been taken for *L. olivaceus*. Necker long ago described it by the name of *Acetabulum*, indolently taken from the synonym of Dillenius, but too faulty in its application and construction to be tolerated. That of *corrugatus* expresses the essential character of the singularly wrinkled backs of the shields.

It is one of the larger imbricated Lichens, spreading in broadish patches, and known by its very dark green colour, approaching to that of the gelatinous tribe. When dry it is most glaucous. The shields are concave, rugged, red-brown, often half an inch broad; their outside coloured like the crust but lighter, more or less wrinkled; their margin inflexed, thin, notched, rugged, and often mealy.

1653

Oct.1.1816. Published by Ja.s Sowerby, London.

LICHEN flaccidus.

Flaccid Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

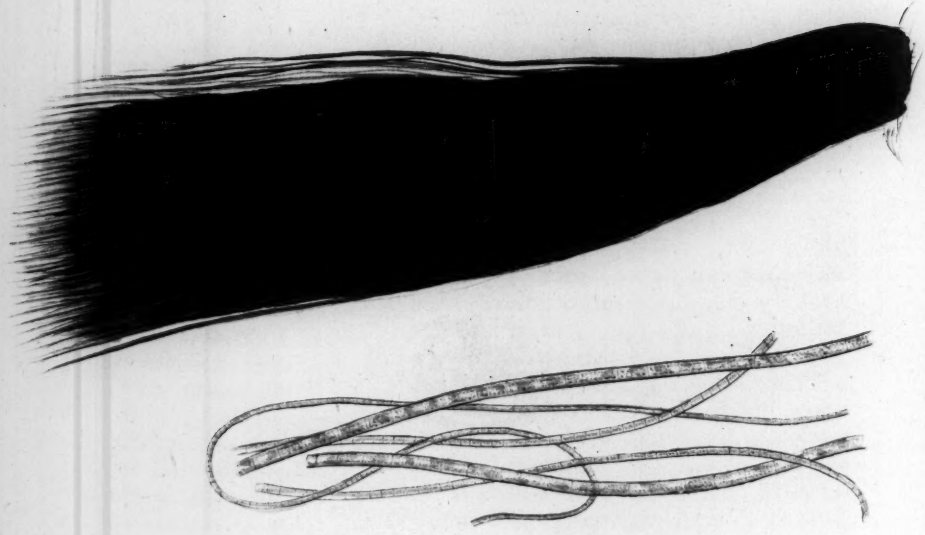
SPEC. CHAR. Leafy, gelatinous, membranous, granulated, of a dark blackish green; its lobes ascending, rounded, folded, entire. Shields scattered, reddish.

SYN. Lichen flaccidus. *Ach. Prod.* 131.
L. rupestris. *Linn. fil. Meth. Musc.* 37. *Swartz. Act. Ups. v.* 4. 249.
L. pulcher. *Leers Herborn.* 257.
L. lacer. *Gunn. Norveg. v.* 2. 131. *Fl. Dan. t.* 470. *f.* 3.
L. nigrescens. *Ehrh. Crypt.* 98.
Parmelia flaccida. *Ach. Meth.* 229.

GATHERED on moist dripping rocks in Westmoreland in 1783. Mr. Dickson about the same time received it from Devonshire and Scotland. To him I am obliged for observing that the younger Linnæus quotes for this species a wrong synonym of Dillenius, and yet has taken its description from that author. The Dillenian plant may remain as *L. rupestris* of Withering, though not of Linnæus, while for the latter we gladly adopt the infinitely preferable name of *flaccidus* given by Acharius. The synonyms of Leers and Gunner stand on the authority of the late worthy Mr. Zier, and there is every reason to think them correct. If so, this is also *Parmelia descissa* of *Ach. Meth.* 248.

Our specimens were gathered on trees at Pyecombe, Sussex, in April last by Mr. W. Borrer. The fronds grow in loose flaccid tufts, not creeping flatly as in *L. nigrescens t.* 345 *, neither are they rugged or blistered. Their lobes are elevated, rounded and entire; the upper surface rough or granulated. The colour is the dark blackish green common in this tribe, and is nearly the same on both sides of the frond, but the granulations are much blacker. Shields scattered, a little elevated, slightly convex, light reddish brown, with a crenate margin of the colour of the frond. With age the disk often falls out in fragments, leaving a very white receptacle. Sometimes the disk is of a darker hue.

* It is proper to observe that *t.* 345 is accidentally coloured much too pale and green.



Oct.1.1806. Published by Jas. Sowerby London.

CONFERVA rivularis.

Long River Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Darkish green. Filaments unbranched, very long, slender, clustered and twisted. Joints even, rather longer than broad.

SYN. Conferva rivularis. *Linn. Sp. Pl.* 1633. *Huds.* 591. *With. v.* 4. 127. *Hull.* 330. *Relh.* 483. *Abbot.* 274. *Dillw. Conf. t.* 39.

C. funiformis. *Roth. Catal. v.* 1. 169.

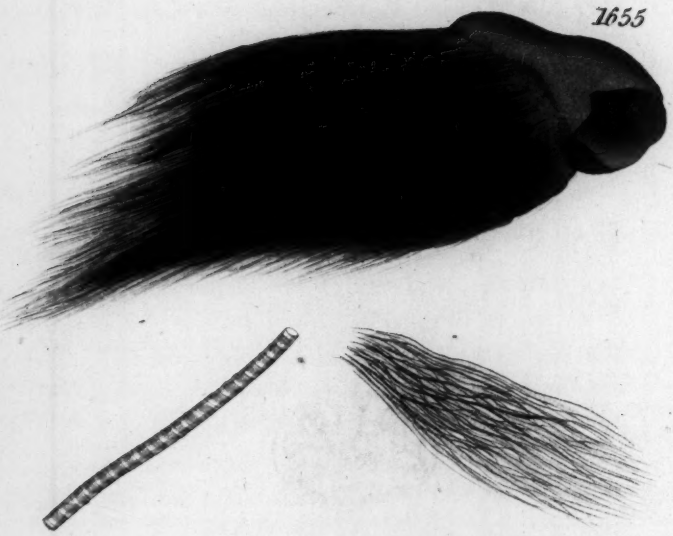
C. fluviatilis sericea vulgaris et fluitans. *Dill. Musc.* 12. *t.* 2. *f.* 1.

C. Plinii. *Raii Syn.* 58.

THERE can be no doubt of this being what Dillenius intended in the place above quoted, though he might gather and confound other things with it; see Mr. Turner's remarks in *Tr. of L. Soc. v.* 7; also Mr. Dillwyn's in his instructive work.

This species has been called Crow Silk, for what reason we know not. It grows in slow streams, and its filaments, extended to the length of 2 or 3 feet, or more, undulating with the current and more or less twisted by its action, are familiar to most observers. The colour is an uniform rather dull or darkish green, brighter in the young plant. The filaments are perfectly simple, of an uniform thickness throughout, though differing greatly from each other, some being about the 900th part of an inch, others not above the 1800th. The joints are not very conspicuous, about half as long again as they are broad, and the colouring matter is pretty equally diffused. When dry the joints become more visible, and the colour of the whole pale and whitish, with the roughish aspect of cotton rather than the gloss of silk.

The plant described under this name by M. Vaucher in his elaborate *Histoire des Conferves d'eau douce*, 129. *t.* 14. *f.* 1, seems to differ essentially from ours, and we are not without suspicion that more than 2 or 3 long floating Confervas may be confounded together by botanists as *C. rivularis*.



Oct 1.1806. Published by Jas. Sowerby, London.

CONFERVA lucens.

Shining River Conferva.

CRYPTOGAMIA Algæ.

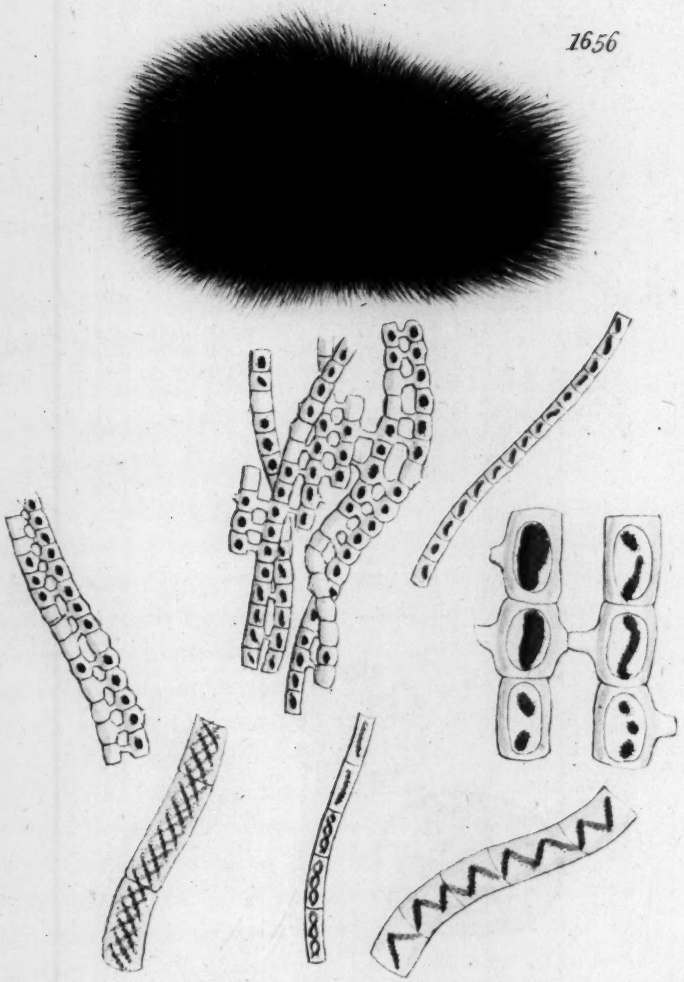
GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Bright shining green. Filaments unbranched, slender, slippery. Joints even, rather broader than long.

SYN. Conferva lucens. *Dillw. Conf. t.* 47.

FOUND by Mr. W. Borrer near Lewes, Sussex, in very rapid streams, and sent to Mr. Sowerby in March last. Mr. Dillwyn, its original describer, finds it "not unfrequently in the clear rapid rivulets of Glamorganshire." The filaments are, according to Mr. J. D. Sowerby's microscopical observations, from the 900th to the 700th part of an inch in diameter. They are 2 or 3 inches long, taper-pointed, forming dense tufts which yield to the stream, of a full and shining green, scarcely glaucous in our specimens. The joints are even, about as broad as they are long, or rather broader, not more conspicuous when dry than when fresh. Their extremities are white and pellucid, the green colouring matter being condensed in the middle, like a little band, which extends to the surface.

The fructification of this tribe of fresh-water Confervas has been much illustrated by M. Vaucher. If, as he seems to prove, the colouring matter of their joints be the seed, they differ from the tubercled kinds nearly as *Ulva* differs from *Fucus*, and unquestionably ought to form a new genus.



Oct 1 1806. Published by Ja.s Sowerby, London.

CONFERVA spiralis.

Combined Spiral Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Light green. Filaments unbranched, slender, slippery. Joints a little swelling, longer than broad. Colouring matter in spiral lines.

SYN. Conferva spiralis. *Roth. Catal. v.* 2. 202. *Dillw. Conf. t.* 3; also *t.* 4. *f.* A, B, according to Mr. J. Woods.

NOT unfrequent, according to Mr. W. Borrer and Mr. J. Woods, in fresh water in the spring, though of short duration. It grows in dense masses, of rather a light green. The filaments are an inch or two long, unbranched, from the 700th to the 500th of an inch in diameter; when magnified they appear almost white, spotted with green in a curious manner, each joint when young being marked with a spiral line, apparently of grains or seeds, which afterwards unite into an oblong mass. The joints are considerably longer than broad; even when young; swelling a little when old. But as the plant advances in age a more singular change happens. The filaments become yoked together, their joints protruding laterally so as to unite by a slender tube, and M. Vaucher has observed the internal green matter to pass through this tube from one to the other. This phænomenon is common to several species besides, comprehended by that writer under the term *conjugatæ*. We cannot with certainty reduce our present plant to any one of his.

G.R. III.
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